Issue 39
PS
1955 Series
THE PREVENTIVE MAINTENANCE MONTHLY
WILL EISNER

CONTROLLED EXCHANGE

Dear Half-Mast,

When you quoted the "bible" on cannibalization in PS Magazine No. 28, we in direct support of the using unit must disagree.

I will frankly admit that cannibalization wouldn't be required if supply could fill the requirements of maintenance quickly and adequately, but that's a darned big IF as far as this Theater is concerned.

It boils down to this: When you've put in your requirements in plenty of time and get no results, you have to resort to: 1. Lateral supply, 2. Local procurement, 3. Substitution, 4. Local manufacture, 5. Or - cannibalization via controlled exchange.

The only way to do away with cannibalization is a prompt and adequate filling of parts requirements by supply. It goes without saying that you always try proper requisitions before you do anything else.

But I am too realistic to sit back on my duff and let two Jeeps sit on deadline, one with bad plugs and one with a busted fan belt. There is work that must be done.

Maj F.H.W., Ordnance

Dear Maj F.H.W.,

You're absolutely right. Controlled-exchange is sometimes the only thing you can do. It should not be done, until and unless you've given your support unit every chance to help you by proper requisitions sent in on time. But after that you've got to accomplish your first duty, which is to keep your equipment running.

No right-minded Ordnance people, inspectors or otherwise, will ever give you a bad time about a controlled-exchange system of parts if they're unable to supply you with those parts.

But if they catch you being lazy, and cannibalizing to cover up for poor parts requisitioning or bad maintenance, then they'll lower the boom.

Same thing goes for parts hoarding. You can get skinned for hanging on to any extra parts which you can get right away from your support.

Best thing - if a using unit ever finds itself in a spot where controlled-exchange is the only way out---talk it over with your Ordnance support unit. They're sure to be acquainted with paragraph 5e (2), Section II of AR 750-5, as amended by Change 1, and will be able to let you know if you're in the clear.

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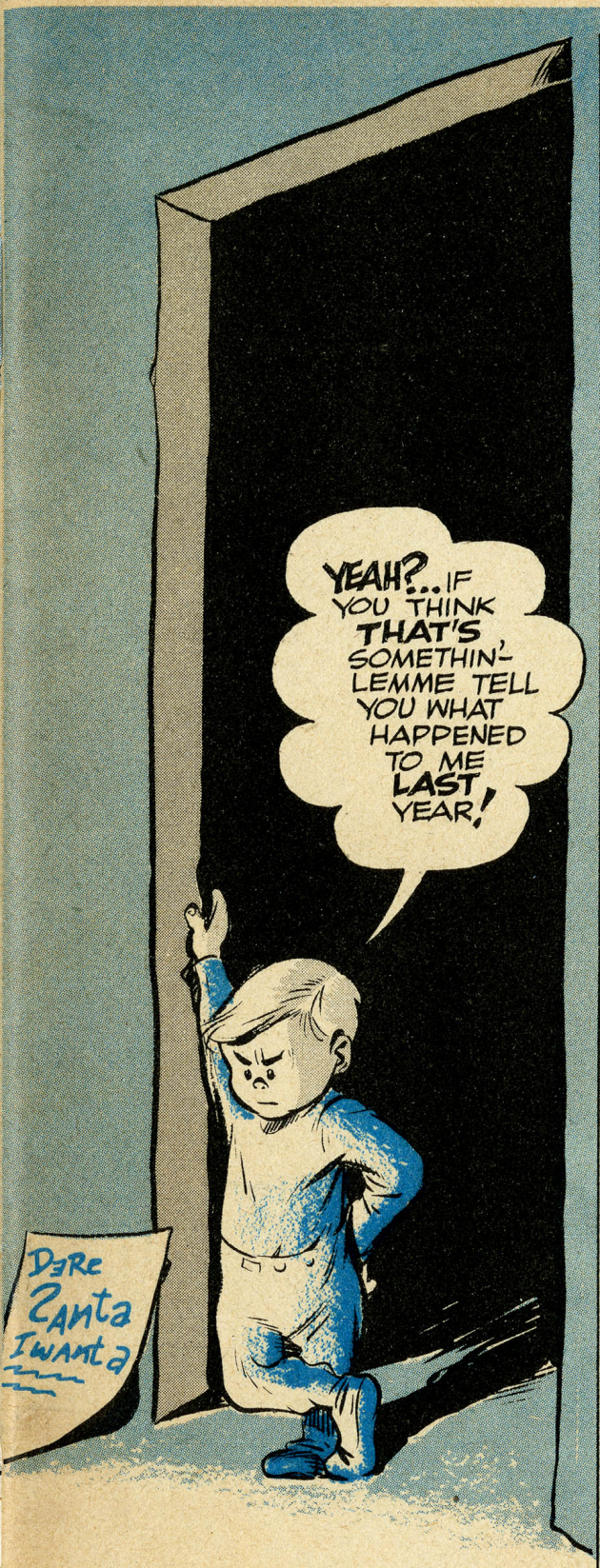

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FOR SIGHT AT NIGHT, NO JOES ARE DOPES WHO KNOW THEIR STUFF ON

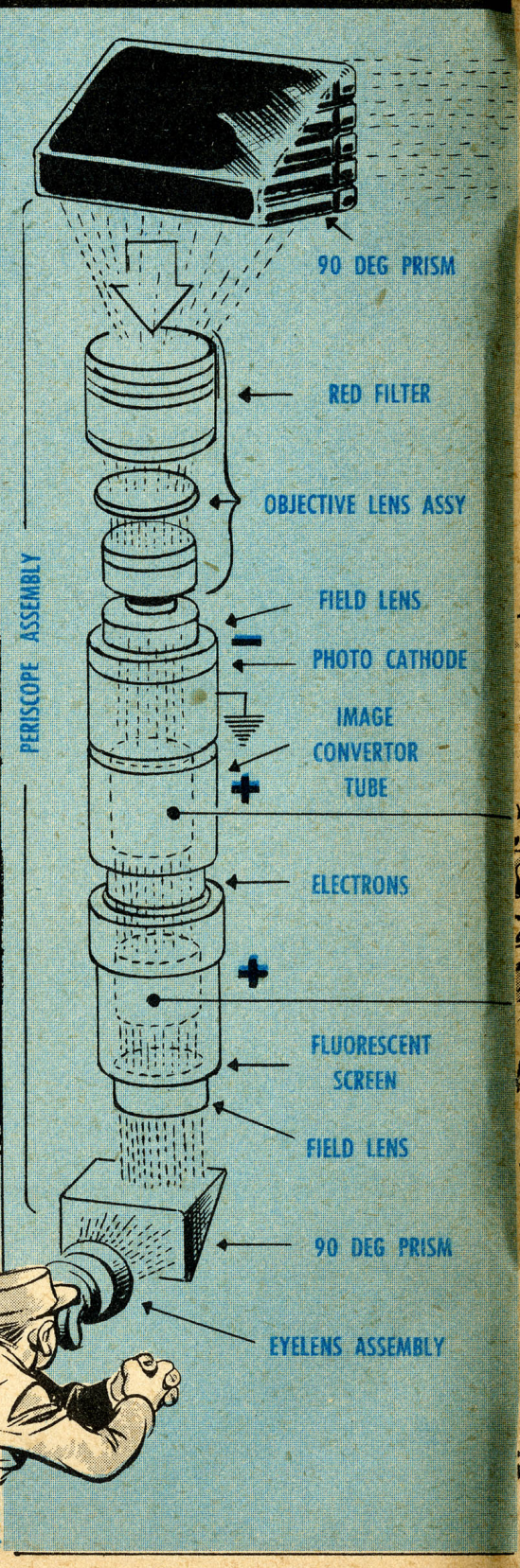
IR 'SCOPES

So you're quite a night owl; y'think those 20-20 peepers are good enough to get you most anywhere y'want to go in the P. M. OK, but who'd wanta trust 'em for herding a blacked-out battle wagon on a dark night (even if you're living on carrot juice)?

So—open the orbs for a few minutes and give a good look at the new infra-red viewing set-up that most combat vehicles're being equipped with these days. A deal designed to let you literally **see** in the dark. All **you** got to do is know how to handle the equipment and keep it in shape.

Of course, the infra-red periscope is no "super weapon" that gives anyone a big jump on the other guy. But—like your gas mask and first aid kit—it's something y'can't afford not to be hep to.

Here's some pertinent poop on how the IR system works on a medium tank. You'll find some slight variations on other vehicles, but the basic principles'll be the same.



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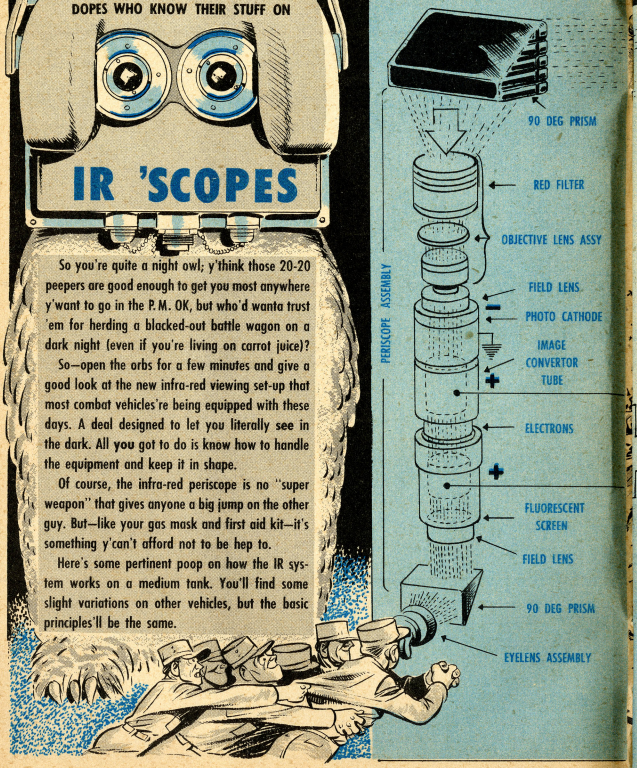
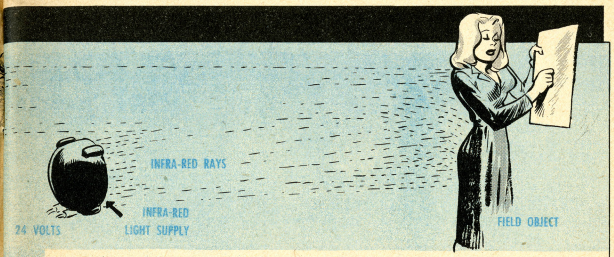
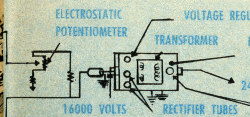




DISA AND DATA (ON IR MAT-TAH)

But first, a word or two about the nature of infra-red itself.

As y'know, the sun or an incandescent lamp (like your service headlights or any electric light bulb) gives off a fairly wide range of rays, or radiant energy. Some of the rays y'can see, and some y'can't.



The part of the range you see is called the "visible light spectrum." Just out of the spectrum on one end are invisible ultra-violet rays—best known for their sun-tanning qualities. At the other end you find infra-red—otherwise known as "heat rays."

Though you can't see it, infra-red behaves just like visible light—it travels, refracts and reflects in direct lines.

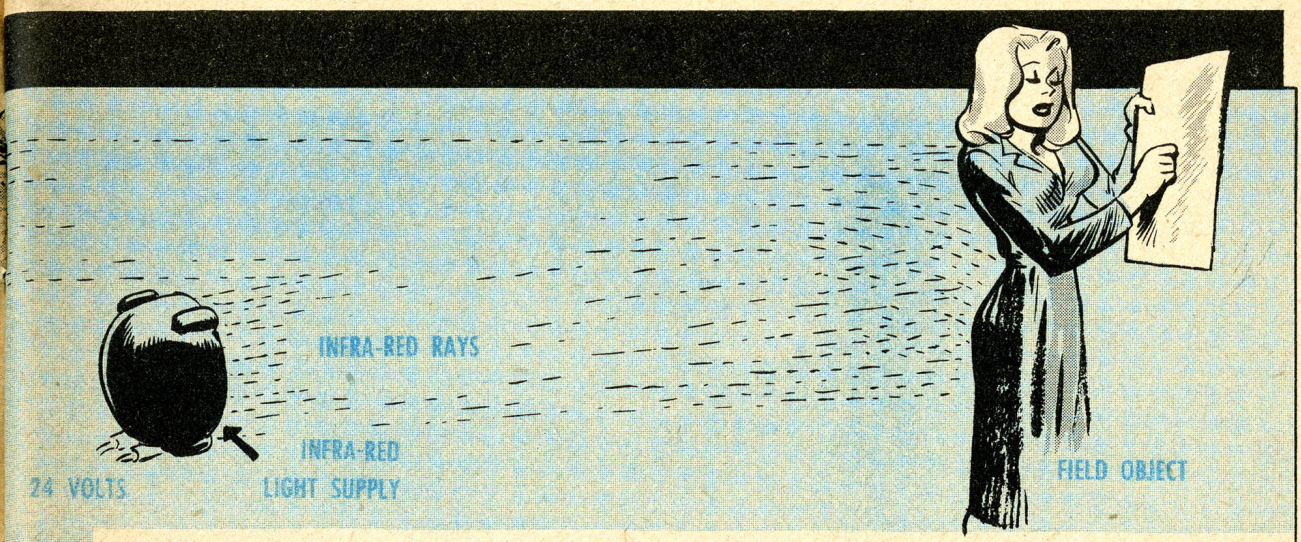
So—the IR system uses these invisible rays to "light up" the dark area you want to see. It then picks up the reflected images of lit-up objects and converts 'em to visible images in the IR scope. Very similar to what goes on in a television set.

Cast an eye at the schematic and you'll note that the reflected infra-red rays are bent through a prism and focused on a screen inside an electron tube. This cathode screen is coated with a material sensitive to infra-red rays. When rays hit the screen, the spot they hit starts to give off electrons—and keep on giving as long as the rays hit it. The number of electrons given off varies with the strength of the rays.

As electrons leave the cathode, they get a boost from the high voltage grid, which shoots 'em down to the fluorescent screen at the opposite end of the tube. Electrons hitting this screen make the fluorescent material glow—which creates the picture you see in the lenses. Just like with TV, no?

The system gets its infra-red light from the two IR head lamps up front. These IR lamps are standard 24-volt sealed beam head lamps powered by your buggy's batteries. Only difference between them and the service drive lights is an IR filter that screens out all the visible light and only lets through the infra-red rays—which you can't see.

Might be well to keep in the back of your mind that in an emergency the infra-red and service drive lamps can be interchanged, just be sure to install the filter on the IR lamps.



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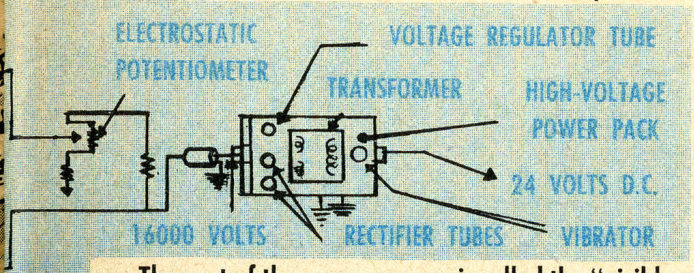

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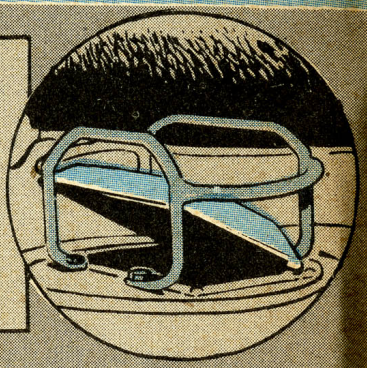
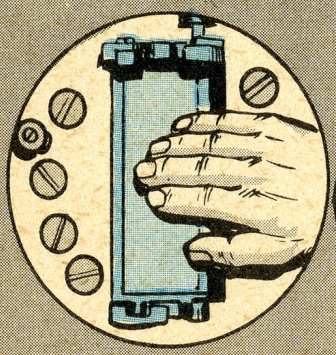
ON THE BALL?

For the infra-red set-up your equipped with a quick-disconnect easy changes between the IR scope

Here's how to install and set it up for operation:

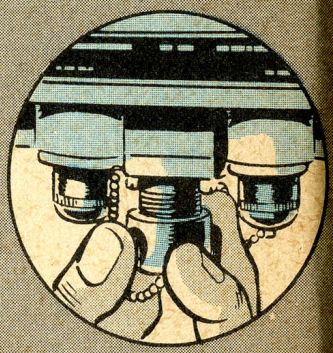
1. With hatch closed, set your quick-disconnect turntable so that the outside cover opens toward the front of the vehicle.



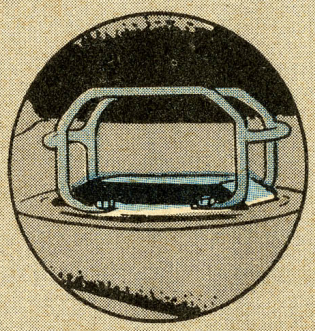


3. Center trunnions in slots and push bottom of scope till the trunnion latches close.

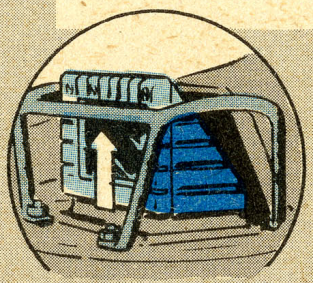
4. Unscrew protective cap from hi-voltage power receptacle on bottom of scope; clean out any dust or dirt.



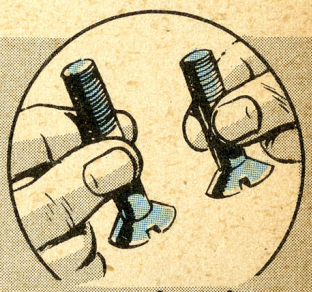
SHORT GUARD



Top side of your turntable should be equipped with one of the new, long-legged, rounded-angle brush guards to take the IR periscope.



If you're stuck with the older, short-legged type, you'll not only find it hard to install the scope—but the guard'll foul your vertical line-of-sight adjustment, too.



One way to beat this rap (if y'can't get your hands on the new type) is to replace the four brush-guard attaching screws with four longer screws.

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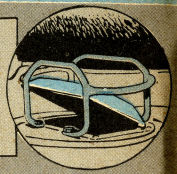

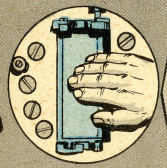

3. Center trunnions in slots and push bottom of scope till the trunnion latches close.

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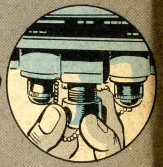
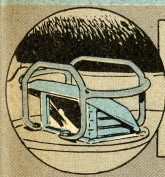
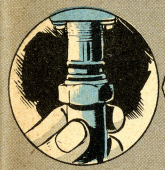


NOW, INSTALL...



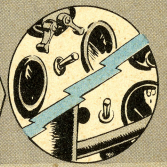
2. Push the head of the scope through the turntable opening. The head raises the outside cover and holds it back.

When not in use the IR scope is carried in a special stowage box in your driver's compartment.



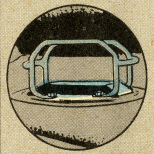
5. Now disconnect your hi-voltage lead from its dummy receptacle and connect it to the scope receptacle. Get it tight.

6. Make sure your BO Receiver switch and master relay switch are OFF before you fiddle with that hi-voltage lead.



THOSE 16,000 VOLTS CAN BE MIGHTY WARM

SHORT GUARD



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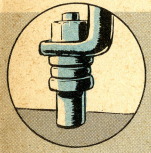
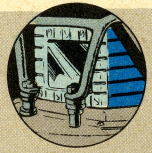
MAKES IT HARD...



Then add shims between the turntable and guard legs.



This'll lengthen the legs of the guard and push its upper braces out of the way of the scope head.

Screws 2-1/2 inches long (that's one inch longer than the issue screws) should give you plenty of length. (So, specify: Screw, machine, flat-head, 3/8-24NF-2 x 2-1/2, Ord Stock No. H001-1023801.) For the shims y'can use whatever's most handy—washers, nuts, tubing, anything to raise the guard about an inch so's it clears the scope.

NOW, INSTALL...

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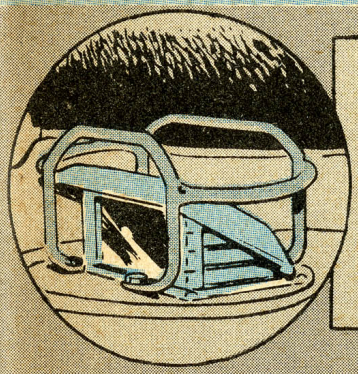
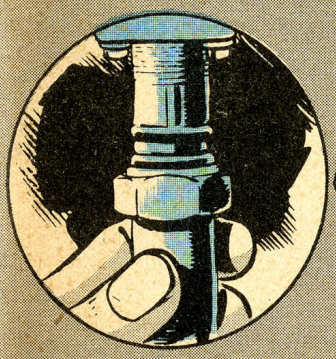


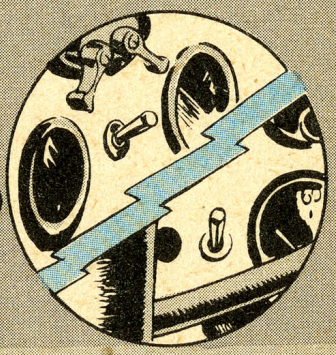
2. Push the head of the scope through the turntable opening. The head raises the outside cover and holds it back.

When not in use the IR scope is carried in a special stowage box in your driver's compartment.



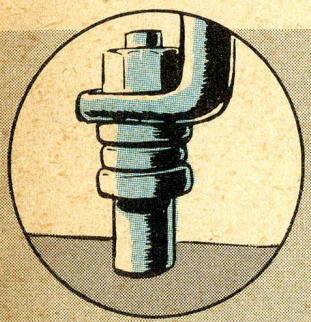
5. Now disconnect your hi-voltage lead from its dummy receptacle and connect it to the scope receptacle. Get it tight.

6. Make sure your BO Receiver switch and master relay switch are OFF before you fiddle with that hi-voltage lead.

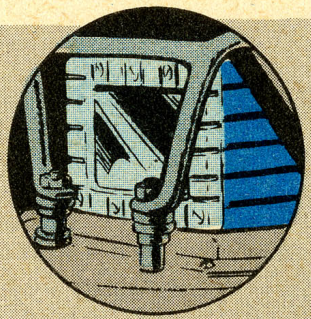


THOSE 16,000 VOLTS CAN BE MIGHTY WARM

MAKES IT HARD...



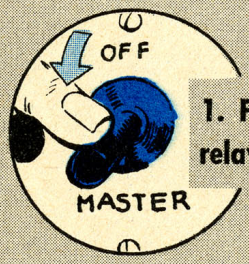
Then add shims between the turntable and guard legs.



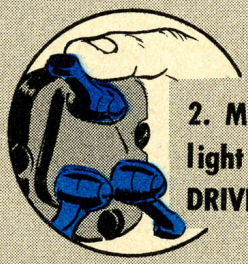
This'll lengthen the legs of the guard and push its upper braces out of the way of the scope head.

Screws 2-1/2 inches long (that's one inch longer than the issue screws) should give you plenty of length. (So, specify: Screw, machine, flat-head, 3/8-24NF-2 x 2-1/2, Ord Stock No. H001-1023801.) For the shims y'can use whatever's most handy—washers, nuts, tubing, anything to raise the guard about an inch so's it clears the scope.

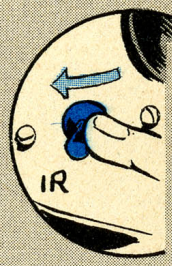
OK, MATE, LET'S OPERATE...



1. Flip master relay switch ON.

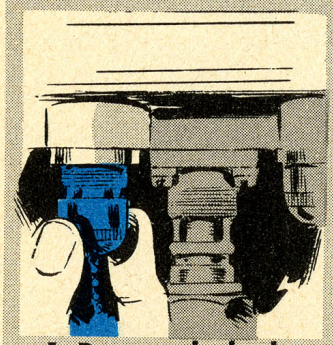


2. Move main light switch to BO DRIVE.

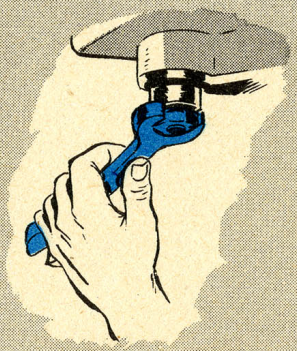


3. With IR-BOD Selector switch select IR. (This turns on your IR head lamps.)

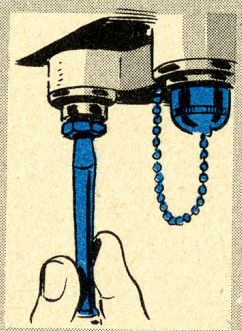
Now allow the scope to warm up for about a minute, and y'should get a picture in your eyepiece. If the picture is not clear, you'll need to adjust for electrostatic focus—like this:



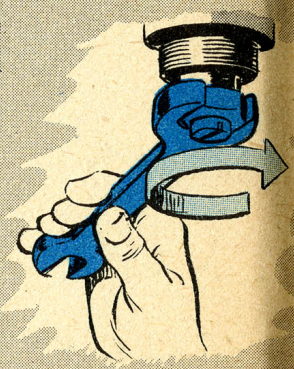
1. Remove the bushing cap from the variable resistor under each eyepiece.



2. Loosen lock nut on resistor adjusting screw.

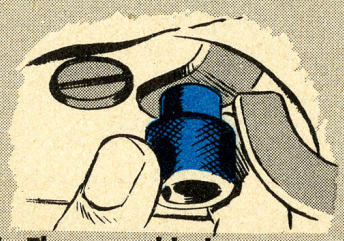


3. With a screwdriver, adjust each variable resistor for sharpest focus at center of your field of vision.



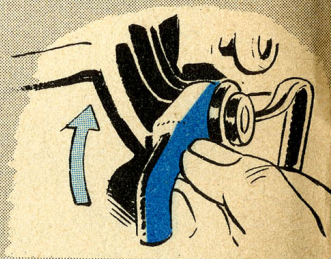
4. Tighten lock nuts.

A couple more adjustments now will whip 'er into shape to suit your (driver's) individual needs.



1. The turntable lets you rotate the scope to point in the direction you want. Tighten the knurled table lock knob to hold it there.

2. To vary your vertical line-of-sight, swing the scope to or fro on its trunions.

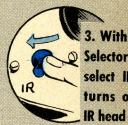


3. When it's where you want it, tighten your elevation-lock-lever (with a clockwise twist) to hold it in place.

OK, MATE, LET'S OPERATE...

1. Flip master relay switch ON.

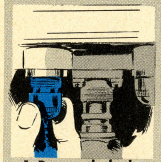
2. Move main light switch to BO DRIVE.



3. With IR-BOD Selector switch select IR. (This turns on your IR head lamps.)

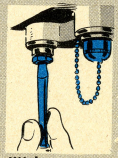
4. Turn BO Receiver switch ON. (This puts the juice to your hi-voltage power pack.)

Now allow the scope to warm up for about a minute, and y'should get a picture in your eyepiece. If the picture is not clear, you'll need to adjust for electrostatic focus—like this:

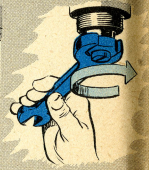


1. Remove the bushing cap from the variable resistor under each eyepiece.

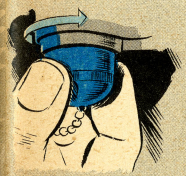
2. Loosen lock nut on resistor adjusting screw.



3. With a screwdriver, adjust each variable resistor for sharpest focus at center of your field of vision.



4. Tighten lock nuts.



5. Replace the caps.

A couple more adjustments now will whip 'er into shape to suit your (driver's) individual needs.

1. The turntable lets you rotate the scope to point in the direction you want. Tighten the knurled table lock knob to hold it there.

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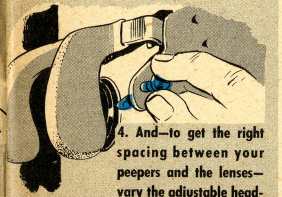
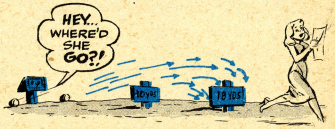


4. And—to get the right spacing between your peepers and the lenses—vary the adjustable headrest; lock it in place with clamping screws. And you're all set.

EFFECTIVE RANGE OF THE IR SCOPE IS FOCUSED AT 18 YARDS

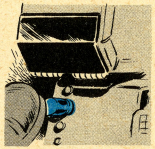


This gets best results for average speeds. Lets you see just far enough for safe driving—so don't expect to be able to pick out a cat fight in the next county. It's got its limits.

DOES - DON'T... WILL - WON'T!

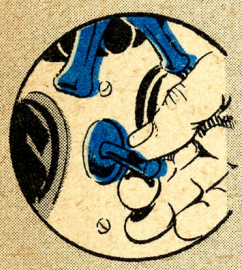
The one thing your infra-red system does is let you see through dark air. Clear dark air, that is. It won't cut through fog or mist or smog or dust any better than your service headlights will. Don't expect it to.

'Nother thing to keep in mind: you don't get the best of depth perception in an IR scope. Practice will help—but even with practice you won't be able to judge the distance of trees, boulders, ditches and ravines too well. Remember this and···**take it easy!** You'll save a lot of headaches.

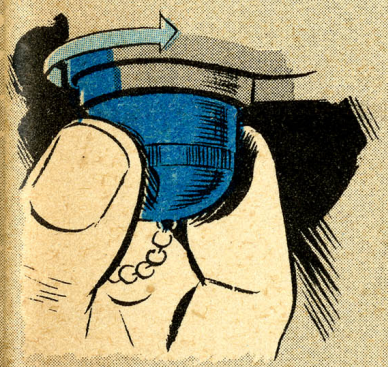


The IR circuit is wired through the dimmer switch on the hull floor—same as your service head lights. To change the beam from Hi to Low (or vice versa), just boot the button.

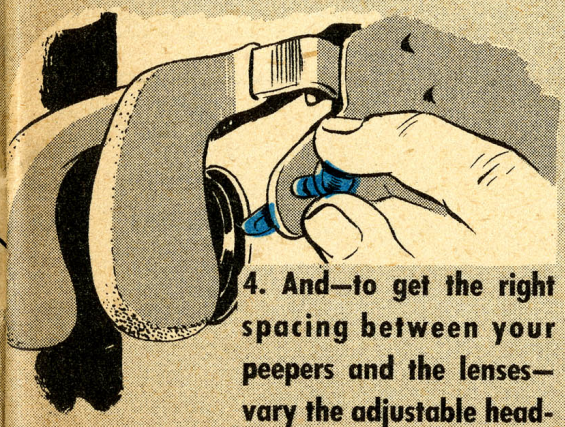
Using either system (IR or service drive), the high-beam indicator light on your instrument panel should be on when the beam is high, off when the beam is low.



4. Turn BO Receiver switch ON. (This puts the juice to your hi-voltage power pack.)



5. Replace the caps.



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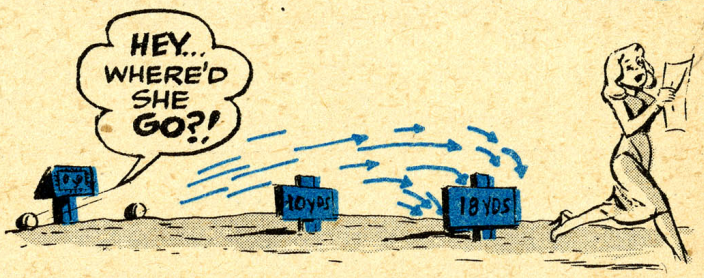
EFFECTIVE RANGE OF THE IR SCOPE IS FOCUSED AT 18 YARDS



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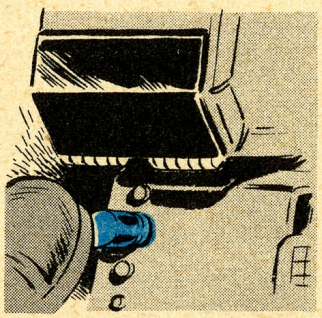

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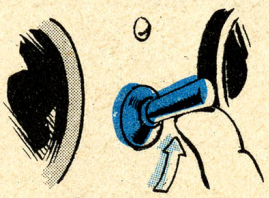
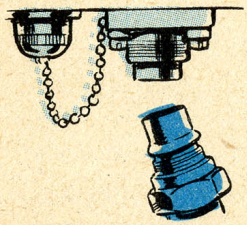
Using either system (IR or service drive), the high-beam indicator light on your instrument panel should be on when the beam is high, off when the beam is low.

ALL THRU, JOE? REMOVE & STOW

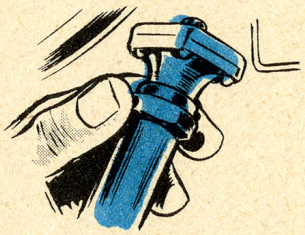
1. First make sure (darned sure) that the BO Receiver switch is OFF



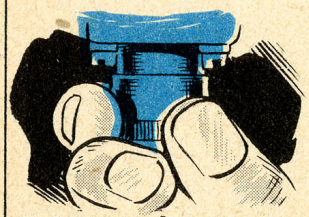
2. Then unscrew the hi-voltage cable retaining nut and pull cable out of scope power receptacle



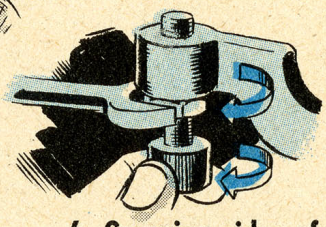
3. Push cable lead in dummy receptacle and secure it with retaining nut



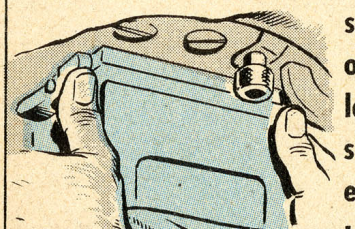
4. Replace protective cap on scope hi-voltage receptacle



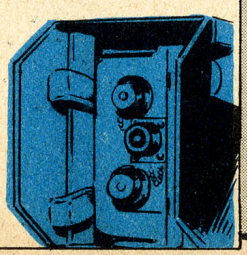
5. Loosen elevation-lock-knob jam nut and screw out the knurled knob a few turns

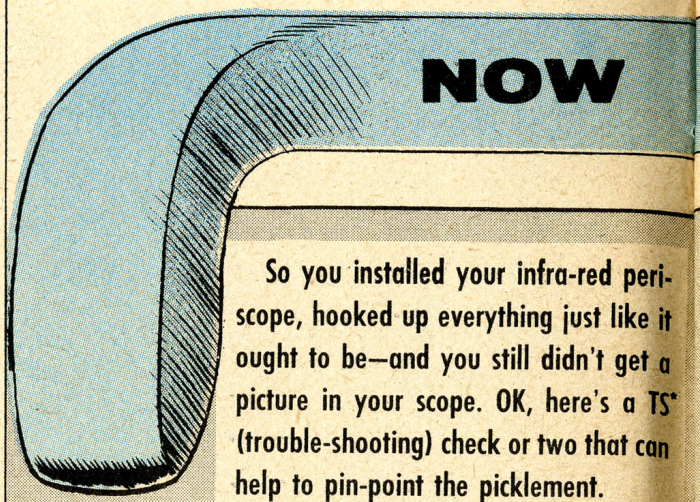


6. Grasping sides of scope, press upward on the spring-loaded latches (one on each side) till the retainers release scope trunnion



7. Now lower the scope out of turntable and stow it in stowage box

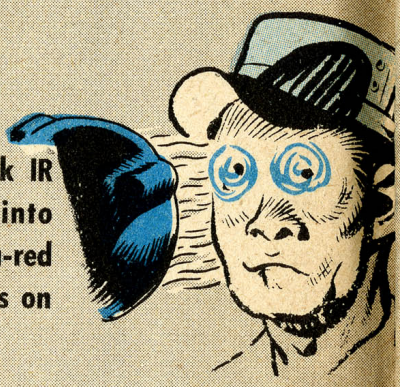




So you installed your infra-red periscope, hooked up everything just like it ought to be—and you still didn't get a picture in your scope. OK, here's a TS* (trouble-shooting) check or two that can help to pin-point the picklement.

First, you'll want to make sure you're getting infra-red light. Right? So—

3. Don't try to check IR lamps by looking into them. Too much infra-red can put your blinkers on the blink.

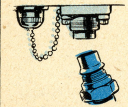


Now you're sure you've got IR light. But still no picture? Then you'll want to make sure you're getting input voltage to the power pack:

With the scope installed, the hi-voltage lead connected and BO Receiver switch ON, y'should hear a buzzing noise (from the vibrator) in the hi-voltage power pack.

ALL THRU, JOE? REMOVE & STOW

1. First make sure (darned sure) that the BO Receiver switch is OFF



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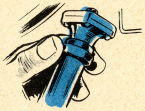
3. Push cable lead in dummy receptacle and secure it with retaining nut



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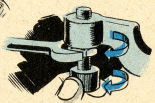
5. Loosen elevation-lock-knob jam nut and screw out the knurled knob a few turns



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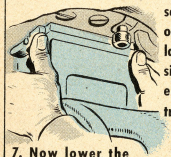

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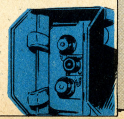

NOW A BIT OF TS *

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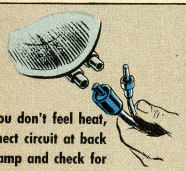
First, you'll want to make sure you're getting infra-red light. Right? So—

1. Check IR headlamps—by holding hand close in front of lamp.

2. If the lamp's working, you'll feel the heat on your hand. Which means the IR supply circuit's OK.

3. Don't try to check IR lamps by looking into them. Too much infra-red can put your blinkers on the blink.



4. If you don't feel heat, disconnect circuit at back of IR lamp and check for voltage with test light or voltmeter.

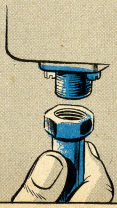
5. (Check both high and low beam circuits.) If you're getting voltage to these circuits, remove cover to IR lamp and install new sealed beam unit.

6. If there's no voltage at headlamp, check back through dimmer switch, IR-BOD Selector switch and main-light switch. Replace or have replaced any faulty items you locate—and check again for heat at the lamp.

Now you're sure you've got IR light. But still no picture? Then you'll want to make sure you're getting input voltage to the power pack:

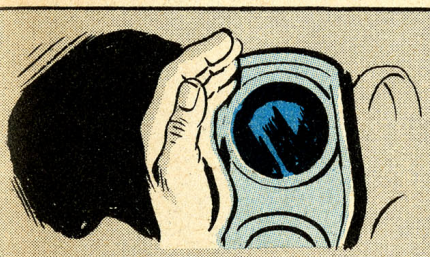
With the scope installed, the hi-voltage lead connected and BO Receiver switch ON, y'should hear a buzzing noise (from the vibrator) in the hi-voltage power pack.

No buzz? Try turning on dome lights. (They're wired through the same circuit breaker as the low-voltage input to the IR power pack.) If the domes don't light, trouble's likely a bad circuit breaker. Get it replaced.

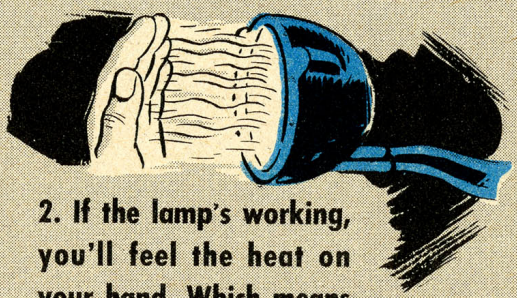


Dome light works and still no buzz? Turn BO Receiver switch OFF, disconnect 24-volt cable from bottom of power pack, flip switch on again, and check for voltage.

A BIT OF TS *



1. Check IR headlamps—by holding hand close in front of lamp.



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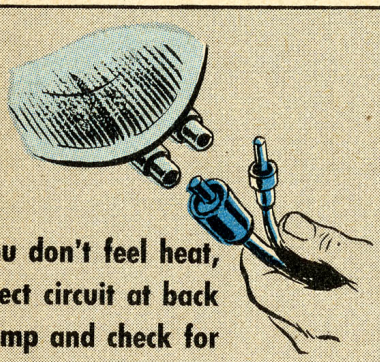

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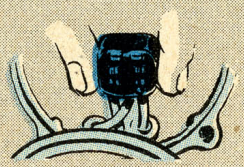

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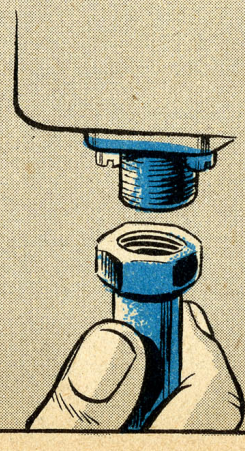


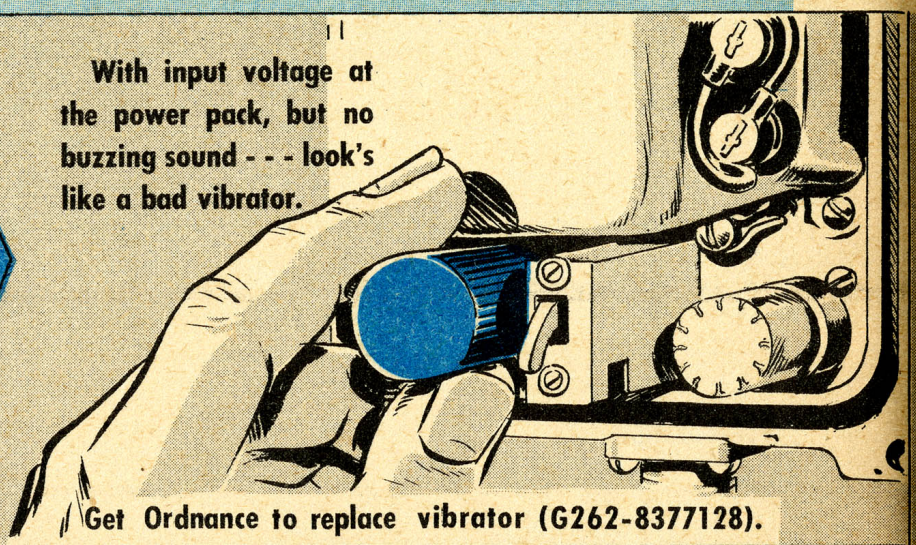
Dome light works and still no buzz? Turn BO Receiver switch OFF, disconnect 24-volt cable from bottom of power pack, flip switch on again, and check for voltage.

If you find the voltage to the power pack OK, you'll know the trouble's in the pack, or the high voltage cable, or the scope itself. So here're some checks on that. Some of the checks are to be made by you. Some are made by your Ordnance supply unit.

1

ORD DOES THIS

With input voltage at the power pack, but no buzzing sound - - - look's like a bad vibrator.



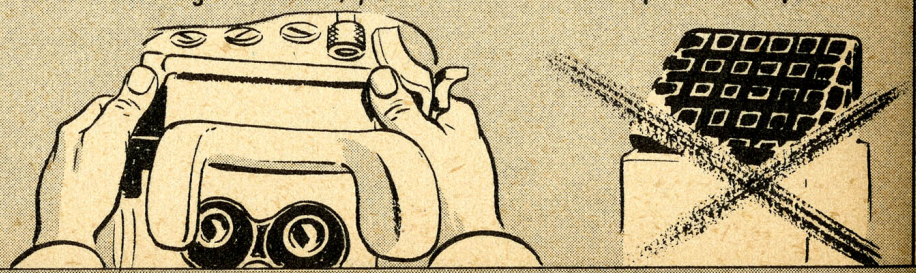
Get Ordnance to replace vibrator (G262-8377128).

2

YOU DO THIS

Got input voltage to the power pack, vibrator working—and still no image in the scope? Then the trouble is either elsewhere in the power pack or in the hi-voltage cable—or in the scope itself. There are two quick ways to tell if it's in the scope.

Use a scope that you know is working and install it in the vehicle you're trouble shooting. If it works, you'll know the other scope's bad. Replace it.



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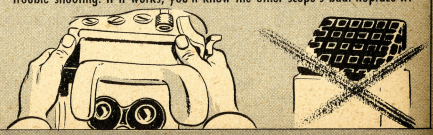


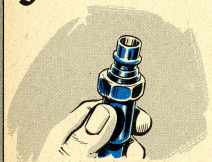
Or—if that kind of switching's not convenient—try this method, but do it with **extreme care:**

YOU DO THIS

3

Make sure BO Receiver switch is OFF.

Disconnect hi-voltage lead from scope.



Hold the lead outside the vehicle, away from any fumes and away from any part of the body—anybody's body.

Flip on the BO Receiver switch for a few seconds. If the hi-voltage power pack and cable are OK, there should be a continuous flow of sparks across the end of the cable. So — if y'get the sparks, you need a new scope.

4

ORD DOES THIS

If you perform these checks and find that the trouble is not in the scope, your Ordnance support unit will check out all the other items in the power pack. They'll replace them, or they may even replace the whole power pack itself. If you still have trouble after that, Ordnance will check out your hi-voltage cable and install a new one for you if necessary.

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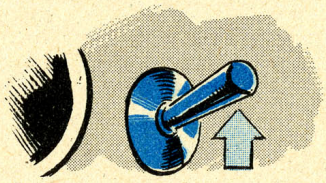

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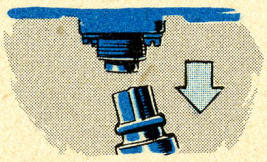

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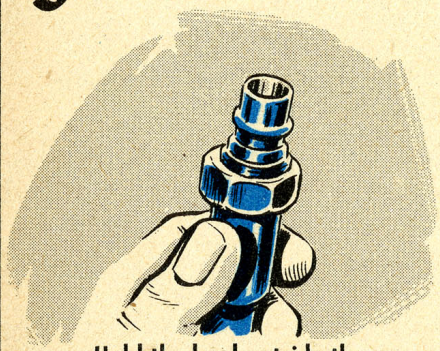

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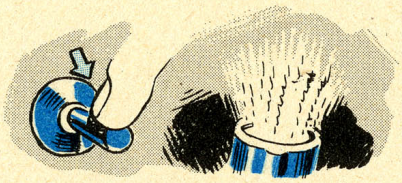

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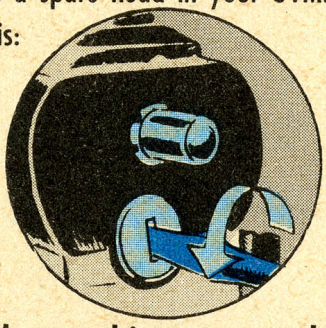
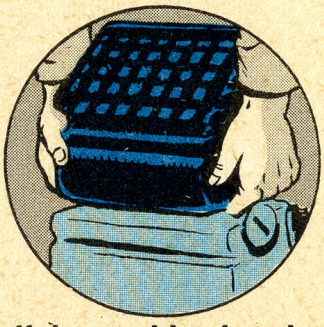
NEED A NEW HEAD, MAN?

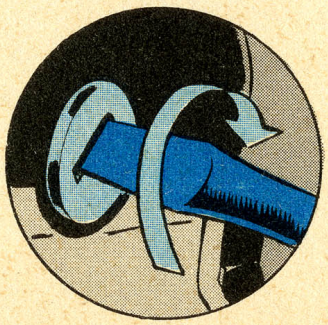
The head assembly (prism) of your IR scope sticks out through the turntable when the scope's in use—and can get damaged. If and when this happens, replacing it's no sweat. There's a spare head in your OVM. Goes on like this:



With screwdriver, turn each body latch eccentric (the slotted screw just below each trunnion) counterclockwise. About 1/4 turn does it.



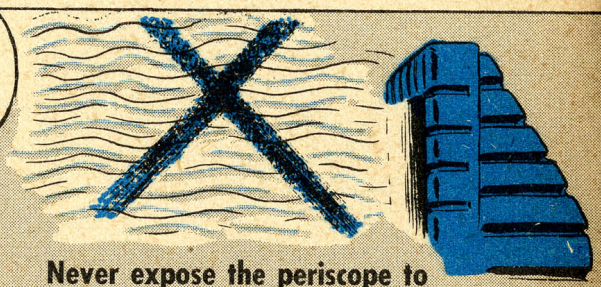
Lift off damaged head, and replace it with good one.



Then turn the screws clockwise to lock replacement head in place.

The infra-red periscope is rugged—built to do its job—but it's still a delicate instrument. It'll stand a lot of use—but not abuse. Here are a few pointers that'll keep your IR system in top shape—and keep you out of trouble.

CONDENSATION: Moisture may condense on optical parts when their temperature is lower than the surrounding air. If it's not excessive, you can get rid of this moisture by placing the scope in a warm, dry place. But, take care: Don't apply strongly concentrated heat directly to the scope. This can cause uneven expansion—and damage the optical parts.



Never expose the periscope to direct sunlight. Sun rays are poison to those image converter tubes.

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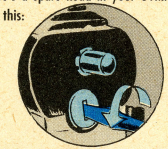

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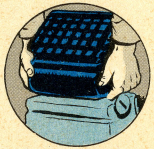

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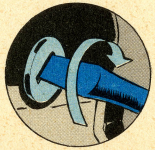

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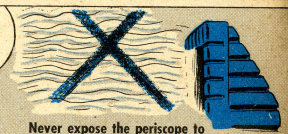

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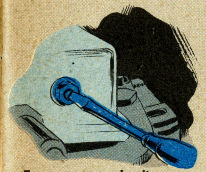
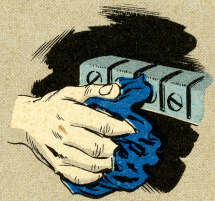
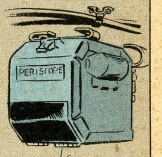
SCOPE DOPE



Turn screws and adjustments on the equipment only when it's needed. Don't fiddle.

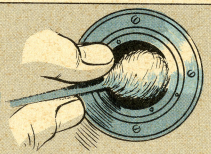


Keep it clean and dry as possible. If scope gets wet, dry it carefully before stowing.

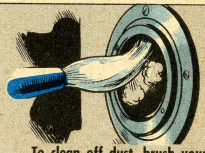


When the scope's not in use, keep it in its stowage box.

For wiping optical parts, use only lens tissue paper. It's made 'specially for that purpose. Never (NEVAH, that is) use cleaning rags on optical glass.

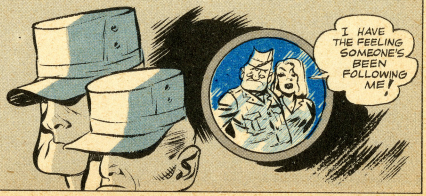


If oil or grease gets on optics, go after it with a small dab of alcohol on a tuft of lens tissue; then wipe gently with a clean lens tissue. Never wipe lenses with fingers.



To clean off dust, brush your glass lightly with a clean camel's hair (artist's) brush. Rap the brush against a hard surface to knock out the dust that clings to it. Do this until all dust is off optics.

And (AGAIN) heed this: Always make sure your BO Receiver switch is OFF when the IR scope is not in use. Leaving it on when the scope's out will burn up the hi-voltage power pack. And, can also make it hot for anyone getting hold of that hi-voltage lead.



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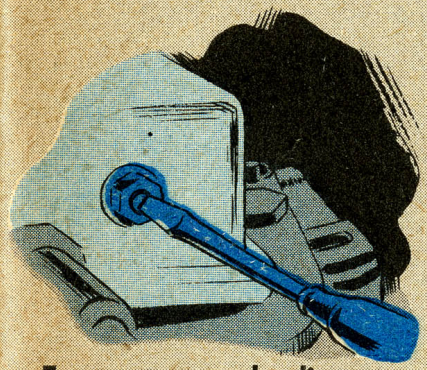

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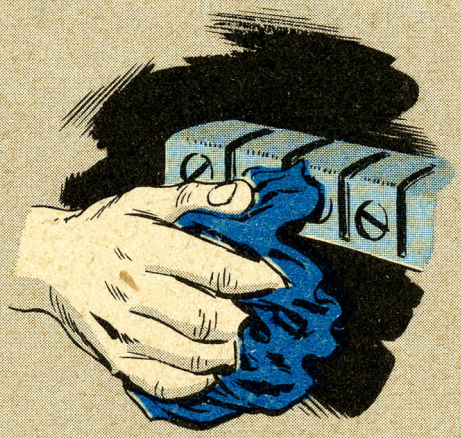

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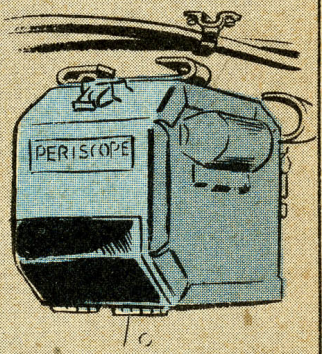

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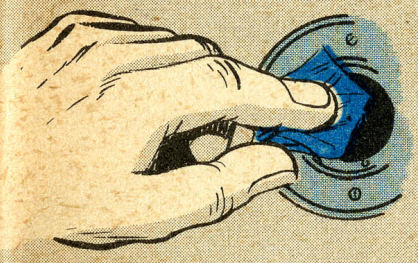

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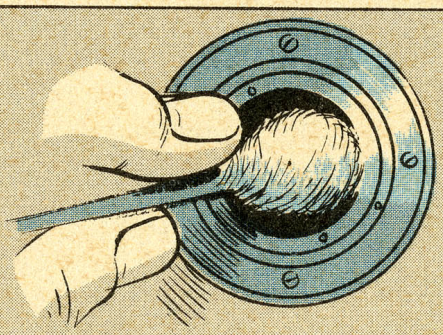

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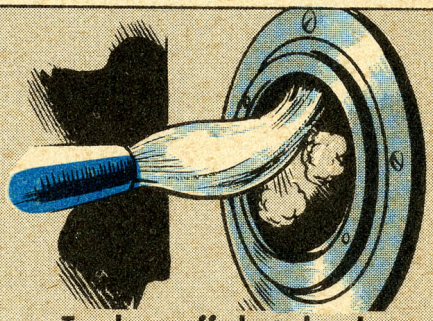

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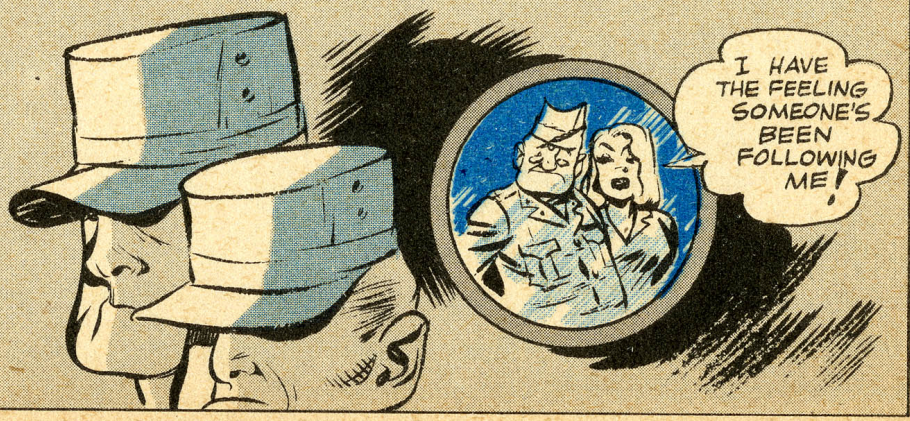
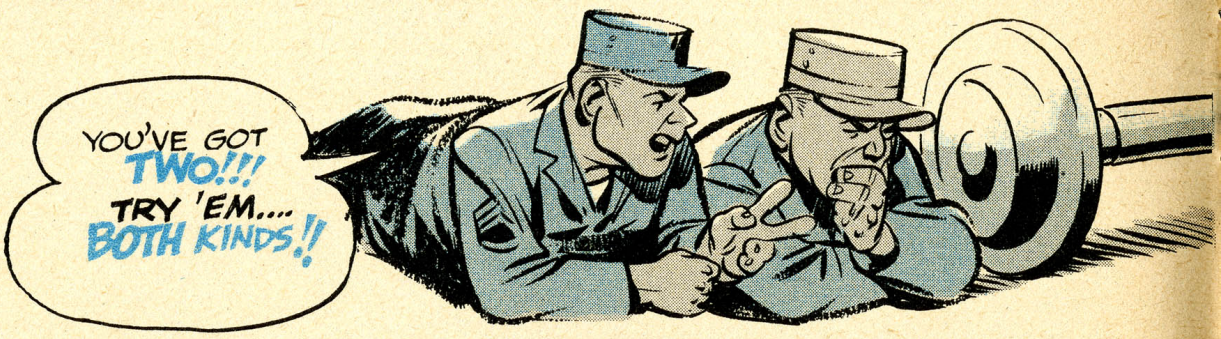


BREAKIN' 'EM IN RIGHT

M37 TRUCK BRAKE



When you've got rhubarbs in your M37 3/4-ton truck corral because of the two kinds of brake linings you're finding on your M37 trucks, read this and things'll get as clear as a red light in a dark alley.

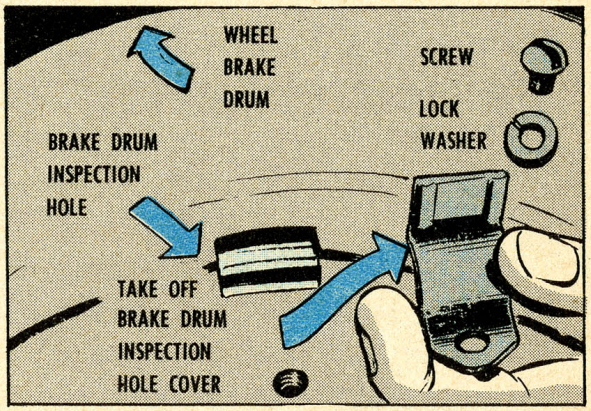
No doubt you've found 3/16-in crowned brake linings on your M37 truck. Crowned—the lining's tapered at the heel and toe so you get clearance between the lining and brake drum at these two spots.

Then again you may find a 3/32-in crowned brake lining on some new trucks. (These look flat.)

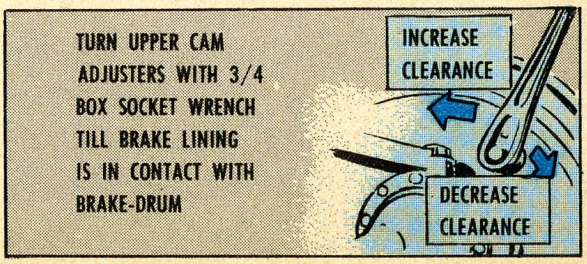
So, what gives? Just this: you're getting the best parts because of constant testing—the latest being the flat-looking lining.

Although the two kinds of brake linings have different shapes, they're still interchangeable; but the same type lining should be used on the primary and secondary shoes of any one wheel. When these two linings are properly adjusted, they'll stand up like a Trojan.

Take a gander at these pictures and charts for help in making these adjustments on your M37's brakes:



You don't make any adjustments when the brake-drums are hot, 'cause when the drums cool off, your adjustment'll be off.



M37 TRUCK BRAKE LININGS

When you've got rhubarbs in your M37 3/4-ton truck corral because of the two kinds of brake linings you're finding on your M37 trucks, read this and things'll get as clear as a red light in a dark alley.

No doubt you've found 3/16-in crowned brake linings on your M37 truck. Crowned—the lining's tapered at the heel and toe so you get clearance between the lining and brake drum at these two spots.

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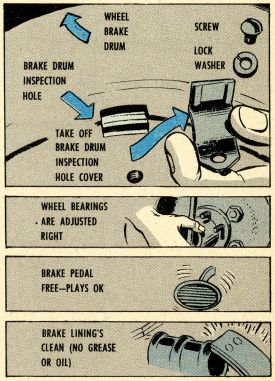

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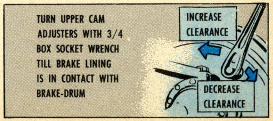
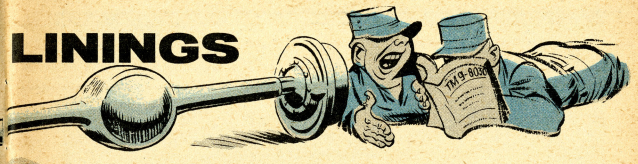


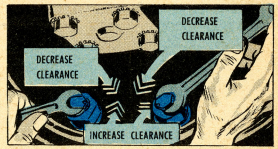


For the kind of drag you'll put on your linings (depending on what kind of lining you got), take a gander at this chart:

TYPE	NEW LININGS	WORN LININGS
CROWNED	**HEAVY DRAG** (YOU'LL BE ABLE TO FEEL THE DRAG WHEN YOU PULL WITH **BOTH** HANDS ON THE OUTSIDE OF THE TIRE AND MOVE THE WHEEL.)	NO DRAG
FLAT-LOOKING	**SLIGHT DRAG** (YOU'LL BE ABLE TO FEEL THE DRAG WHEN YOU PULL WITH **ONE** HAND ON THE OUTSIDE OF THE TIRE AND MOVE THE WHEEL.)	NO DRAG

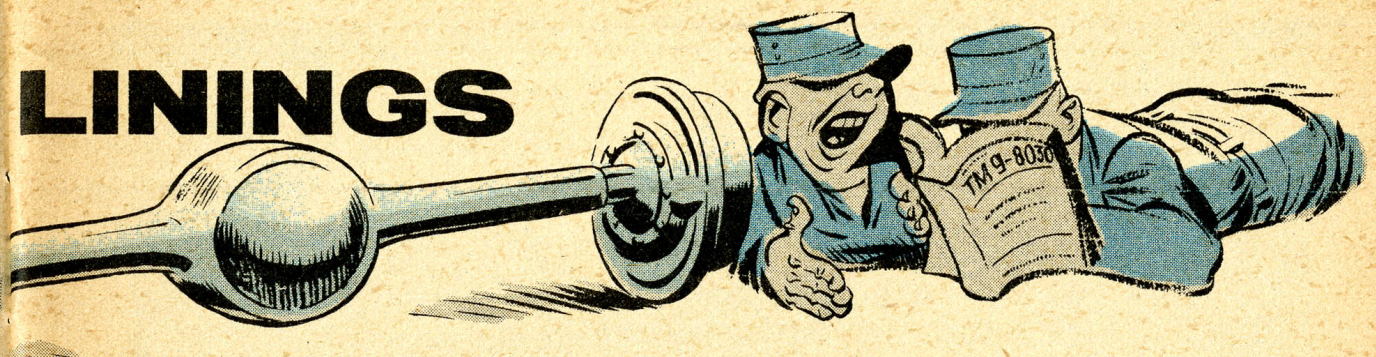
For a major adjustment on **new** linings, first make sure the master-cylinder-piston-rod is properly adjusted. (Your TM tells how it's done.)

Check clearance between the brake linings and drums—alternate between the anchor-bolts and cam-adjusters until you get equal clearance at the lining ends, top and bottom. Turn the anchor-bolts down to decrease clearance and up to increase clearance.



When you're finished, don't forget to put the inspection-hole cover back on. For a major adjustment on worn linings, adjust for proper centralization like it tells you to do in par. 153 **c,** TM 9-840 or see par. 213 in TM 9-8030.

LININGS



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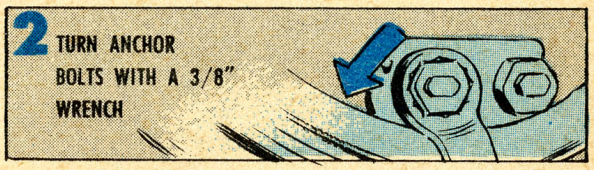

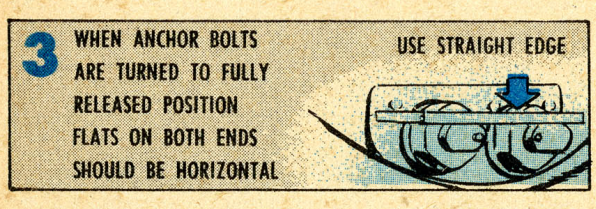

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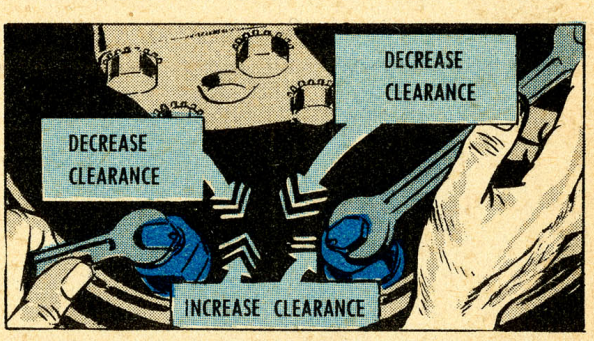

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TIPS ON TIPS

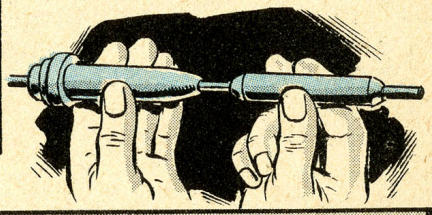
Here's a brief rundown on the care and feeding of cutting tips like wot you use on your acetylene torch.

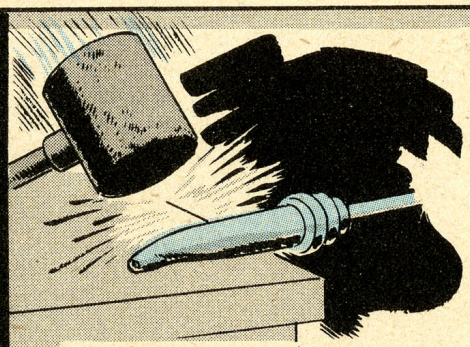
Same procedure will work for your welding tips too, when they get knocked about. Be real sure you don't enlarge the holes, or they won't burn right.

Keep nozzles clean. Soaking them overnight in a solution of 1 lb. caustic soda to half a bucket of water will help dissolve and loosen carbon and foreign matter. CAREFUL: Caustic soda'll burn the skin; handle it carefully!

Rinse nozzles thoroughly in clean water after soaking and before handling.

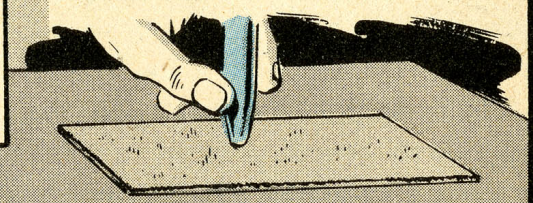
After soaking nozzles, clean gas passages. Select correct size drill and carefully work it up and down in the passage with a slight twisting motion. Last inch of gas passage must be clean, to size, and not bell-mouthed.



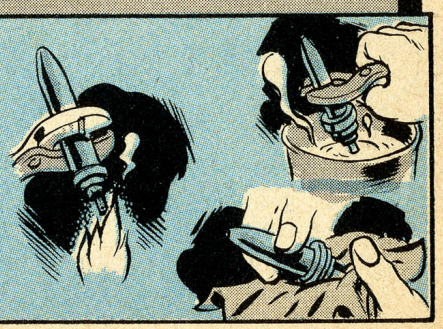


Straighten bent nozzles by placing on wood block and tapping very lightly with a rawhide hammer—ever so gently.

Square up flame end of nozzle after cleaning gas passages by rubbing nozzle on emery cloth, holding it at right angles to cloth. Orifices must be round with sharp edges and no burrs. As much as ¼ inch may be removed from nozzle end.



Check nozzle seats for dirt regularly. To clean, heat seat end below nozzle nut ring to dull red; then quench in water. Remove loosened scale with damp cloth. Heating softens seat so that when connected to blowpipe it is burnished and dressed by harder seating surfaces in blowpipe head. If this doesn't get rid of dents and nicks, discard nozzle.



Tachometer batteries

Now hear this! Those of you who've been begging for the commercial numbers of the batteries for your Tachometer, gasoline engine, electric type, FSN 18-T-231 (Electro Model ORD-231), rally 'round.

This tach takes issue battery BA-415U, two of 'em. But if your Signal supply hasn't got any of 'em, you can use the following commercial batteries instead:

MANUFACTURER	BATTERY NUMBER
Burgess	N60
General	W60A
Ray-O-Vac	4390
Montgomery Ward	46
Philco	P132
Ever-Ready	490
Bright Star	60N
Usalite	769
RCA	US 090
Willard	WBM 3
Crosley	CR 96
Olin	1713

You'll have to do some tinkering with the terminals to use some of these batteries, so be careful not to let the 180-volt current bite you. And keep the plug-ins that come with the tachometer to use when the BA-415U's are available.

Remember, any combination of batteries that'll give you 180 volts DC will work the tach. Be careful to get the polarity right.

Careful now—that same Federal Stock Number, FSN 18-T-231, might have given you another make of tach—Heyer Model ET3 or Heyer Model 98. If you've got one of those, you'll have to hold out for two BA-409U's and one BA-420U—that's what they take.

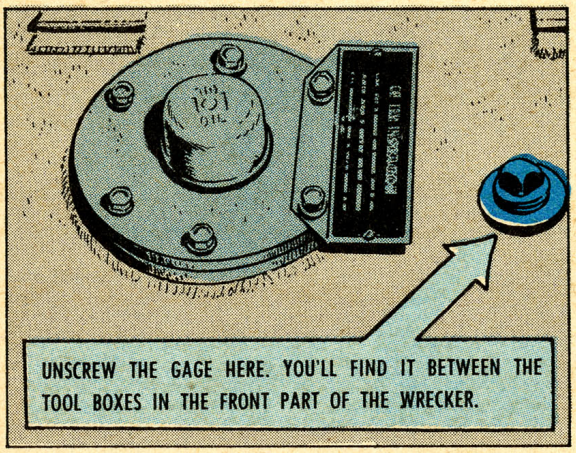
Small parts storage

Here's a trick for storing all the small parts, bolts, nuts, tubing fittings and so on that pile up around the shop.

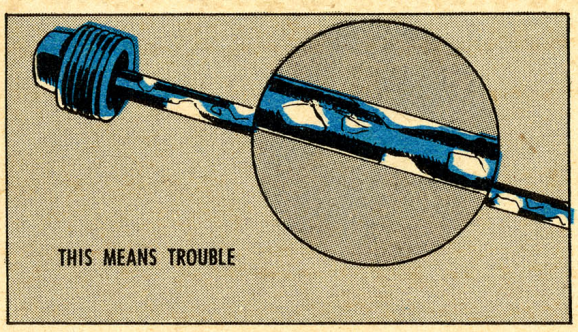
You make a collection of screw-top glass jars (see the mess-sergeant for jelly jars, f'r instance) and you mount the lids **under** any convenient shelf in your stock room. Then, o'course, you stow the little parts in a labeled jar, and screw it up into one of the lids.

Paint problems

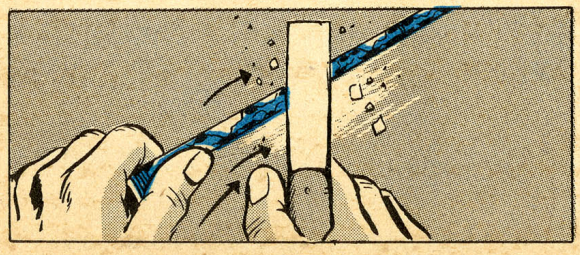
All kinds of foul-ups can come to the crane hoists of your M62 wreckers from any paint that flakes off the crane reservoir bayonet-type oil-level gage.



These tiny hunks will get into your hydraulic system, screw-up the valve functioning and cause plenty of headaches.



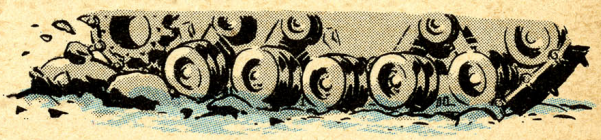
So, whip it out and start scraping all the paint off that oil-level gage below the cap. Use paint remover; it'll do a good job. TB Ord 604 gives the OK on this.



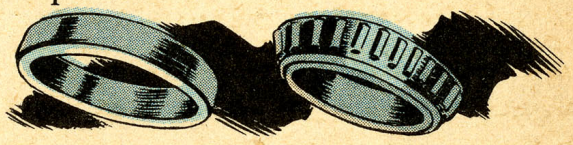
Roughin' it up

Those front road wheels on your tracked vehicles take as much of a beating as a 150-pound halfback hitting a line that averages 210 pounds.

Like that halfback, those wheels get slammed, banged and smeared everytime you take your tracked vehicle over rough terrain. You've got to keep them in shape to take it.



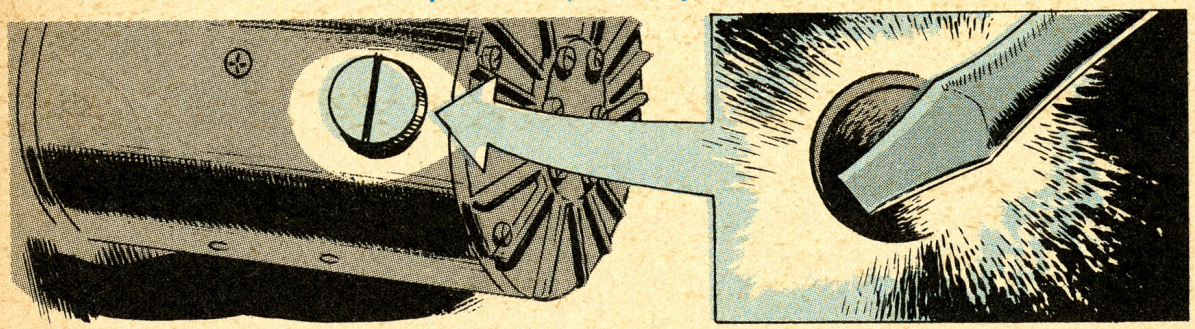
The best way is to make sure that the wheel-bearing-cones match up with the wheel-bearing-cups—that they're made by the same manufacturer. This also goes for your other road wheels, final drives, road-wheel supports, compensating wheels and track support rollers. Use Hyatt cups with Hyatt cones, New Departure cups with New Departure cones and Timkin cups with Timkin cones. The names are stamped right on the part.



Once you've got your bearing cones and cups mated and used, don't divorce them—keep them together till death do 'em part. If the cone or cup becomes pitted, scored or worn, replace both the cone and the cup with new ones.

When it comes to adjusting your wheel bearings, do just like the TM for your vehicle says. This way you'll stop your bearings from chewing themselves to bits when it comes to beating time.

Don't prod your generator

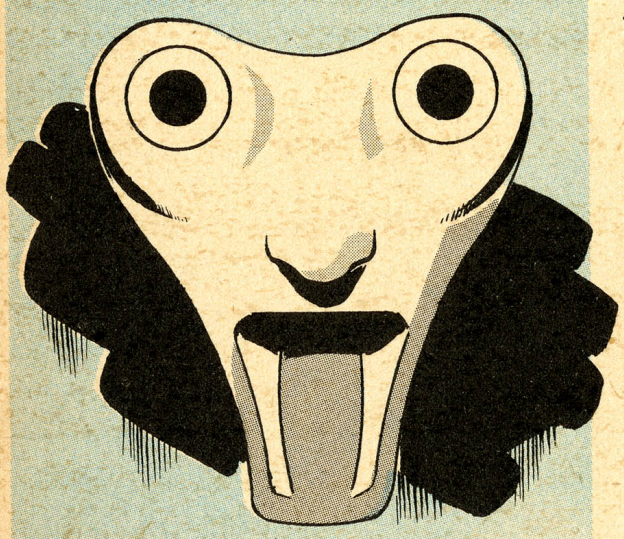


You know how it is, you go poking around where you got no business and the first thing you know, you're in trouble.

And that inspection plug hole on your waterproof generators is a fine example of just what I mean. That plug is to be taken out so you can **inspect** your brushes and commutator. That's all, bud! You go poking a screwdriver or whatnot down there to try to clean or service the brushes, first thing you know you short it out on the case and cause damage to the generator—and the regulator.

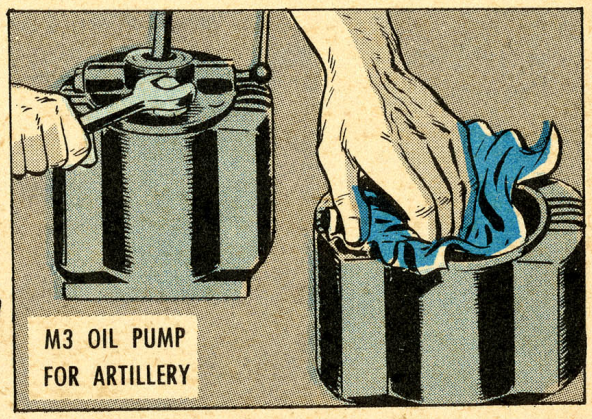
And then you've got a new regulator to install, not to mention pacifying the boss man. So if you find the commutator assembly needs attention, pull the whole generator off and send it to Ordnance.

WHATZZIT ???



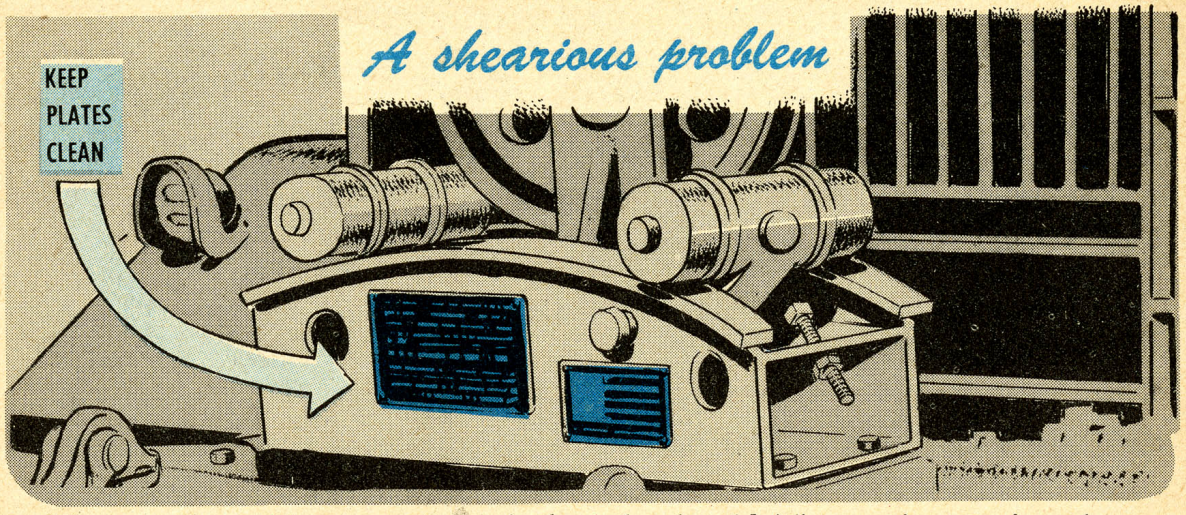
Don't close your eyes. You aren't looking at a ghost of Fogsnoff's second cousin. This thing's for real. Got a bead on it? Well, if you haven't, take a peek at page 20 to find out what this "skeleton in the closet" really is.

It's no sump pump

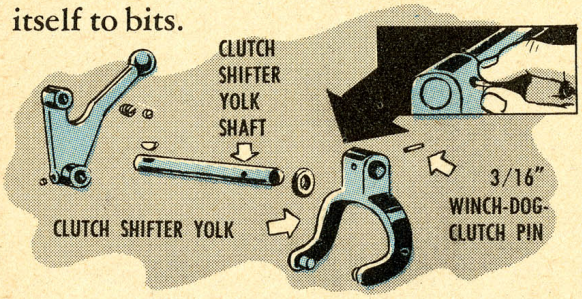


Ever check the innards of your M3 oil pump for water, dirt or moisture? It's not supposed to happen, but water and moisture can sneak through the gasket seal and hose line and emulsify your oil. So take off the cover every 30 days or so and drain the oil. Wipe the inside good and dry with a clean, lint-free cloth and put in fresh, clean oil.

A shearious problem



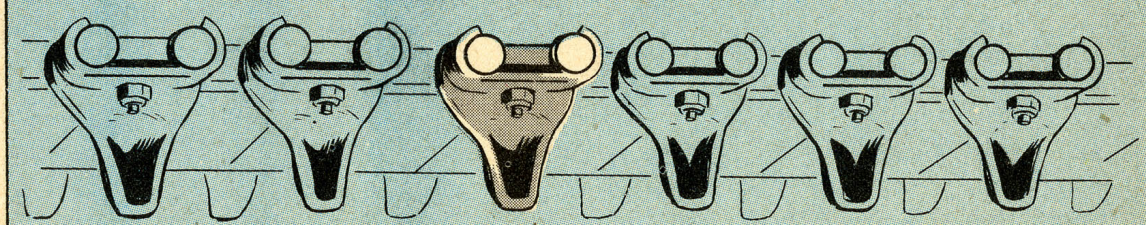
The word's out that some 5-ton jockeys are letting that little steel winch-dog-clutch pin in their winches shear itself to bits.



That pin fits that hole just right, and there shouldn't be any foul ups if a guy maintains and operates his winch like he should. The two instruction plates on both sides of the winch tell the right way to disengage the levers, but a lot of plates get covered over by dirt, grease, paint and other forms of "camouflage." Won't do any good that way.

So, unless you want a sheared pin and your winch busting out all over, keep your winch in operating order by lubrication (see your LO). Get those plates cleaned off so you can follow what they say and make sure you know how to operate the winch before fussing with it.

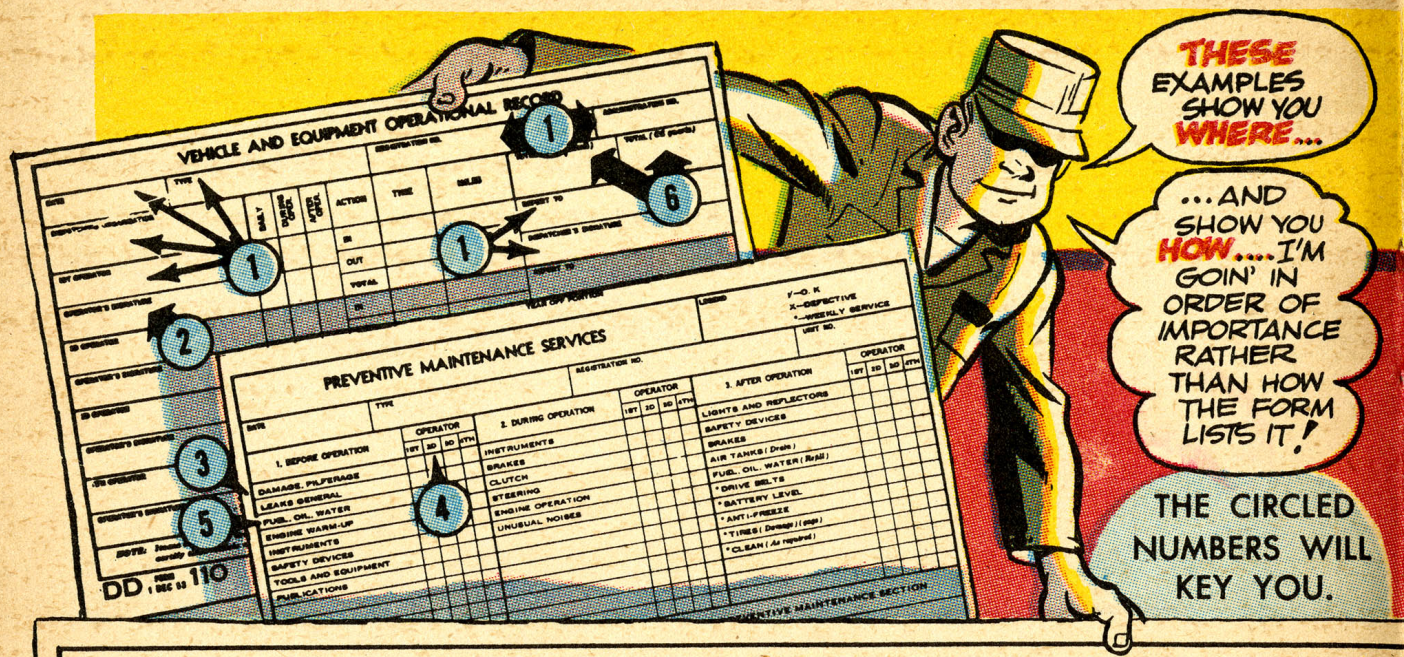
WHATZZIT ANSWER



It's the wedge and end-connector used with the Tractor, M5 series; 90-mm gun carriage M36; high-speed tractor, M4 series; tank-recovery vehicle, M32 series; M4 tank series; and the 105-mm howitzer carriage, M7.

If you've got any of these vehicles around, always keep these wedges and end-connectors tightened just right. The proper torque to use is eighty foot-pounds. When tightened right, the space between the wedges and end connectors on your light vehicles should be about 1/32 inch. On your medium vehicles, this space should be about 3/64 inch.

JOE'S DOPE
HOW TO USE YOUR DD FORM 110 FOR DAILY WHEEL VEHICLE SERVICE
...DRAW A VEHICLE AND COME UP HERE, I'VE GOT A MISSION FOR YOU!
YES CONNIE...
..IT'S A ROUGH HAUL...BUT THEY NEED THOSE PARTS UP THERE...
SO, IF YOU CAN COMPLETE THE RUN BY NOON...YOU CAN HAVE AN EARLY START ON YOUR CHRISTMAS WEEK-END PASS... OKAY??
HEY... DON'T FORGET ANYTHING!
UH-OH!
SCREECH
THANKS JOE!
TWO HOURS LATER....and a few miles away!!!
I TRIED TO REMIND YOU ABOUT YOUR TRIP TICKET. D D FORM 110'S ARE DESIGNED TO BE USED...AS WELL AS CARRIED...WHEN YOU LEARN HOW TO USE IT, IT'LL KEEP YOU ON THE GO. JUST TO MAKE SURE YOU KNOW WHAT TO PUT DOWN WHERE, HERE'S HOW YOU GO ABOUT IT....
THERE GOES MY WEEK-END PASS ...HOW WU I TO KNOW THE OIL LEVEL WU TOO LOW??



VEHICLE AND EQUIPMENT OPERATIONAL RECORD

DATE	TYPE	REGISTRATION NO.	ADMINISTRATION
21 JANUARY 1956	TRUCK, 2½, M135	6249842	N5

DISPATCHING ORGANIZATION	BEFORE DAILY OPER.	DURING OPER.	AFTER OPER.	ACTION	TIME	MILES	TOTAL (*Fuel gallons*)	TOTAL (*Oil*)
69TH TANK BN.								
1ST OPERATOR P.F.C. A.C. THOMAS				IN			REPORT TO LT. B. BURKE	
OPERATOR'S SIGNATURE Alfred C. Thomas				OUT	0800	6489	DISPATCHER'S SIGNATURE H.W. Tucker	
2D OPERATOR				TOTAL				

1

START WITH THE TOP OF THE FORM - THE DISPATCHER HAS ALREADY FILLED IN THE DATE, TYPE VEHICLE, REGISTRATION NUMBER, ADMINISTRATION NUMBER (BUMPER NO.), DISPATCHING ORGANIZATION, 1ST. OPERATOR, TIME, REPORT TO AND SIGNED HIS NAME!

2

SIGNING YOUR NAME (IN INK) **HERE**, BEFORE DOING ANYTHING ELSE, IS **IMPORTANT!** IT IDENTIFIES YOU AS THE AUTHORIZED DRIVER IN CASE YOU'RE EVER STOPPED ON THE ROAD AND QUESTIONED. IT ALSO CERTIFIES YOU'RE USING THE VEHICLE FOR OFFICIAL GOVERNMENT BUSINESS ONLY!

VEHIC

DATE 21 JANUARY 1956 TYPE TRU

DISPATCHING ORGANIZATION 69TH TANK BN.

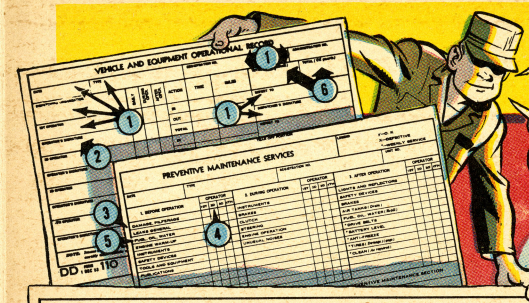
1ST OPERATOR P.F.C. A. C. THOMA

OPERATOR'S SIGNATURE Alfred C. Thoma

2D OPERATOR

Every driver of a wheeled vehicle must have a DD Form 110 properly signed. It's the official authorization for driving the vehicle.

Dig out the TM that belongs with your truck and turn to the Preventive Maintenance Service section. Use it to make your check—then you'll be sure not to miss anything.



VEHICLE AND EQUIPMENT OPERATIONAL RECORD

DATE	TYPE	REGISTRATION NO.	ADMINISTRATION NO.
21 JANUARY 1956	TRUCK, 2½, M135	6249842	N5

DISPATCHING ORGANIZATION	1ST OPER.	DURING OPER.	AFTER OPER.	ACTION	TIME	MILES	TOTAL (Fuel gallons)	TOTAL (Oil qrts)
69TH TANK BN.								
1ST OPERATOR				IN			REPORT TO	
P.F.C. A.C. THOMAS				OUT	0800	6489	LT. B. BURKE	
OPERATOR'S SIGNATURE				TOTAL			DISPATCHER'S SIGNATURE	
Alfred C. Thomas							H.W. Tucker	
2D OPERATOR								

1 START WITH THE TOP OF THE FORM - THE DISPATCHER HAS ALREADY FILLED IN THE DATE, TYPE VEHICLE, REGISTRATION NUMBER, ADMINISTRATION NUMBER (BUMPER NO.), DISPATCHING ORGANIZATION, 1ST. OPERATOR, TIME, REPORT TO AND SIGNED HIS NAME!

2 SIGNING YOUR NAME (IN INK) HERE, BEFORE DOING ANYTHING ELSE, IS IMPORTANT! IT IDENTIFIES YOU AS THE AUTHORIZED DRIVER IN CASE YOU'RE EVER STOPPED ON THE ROAD AND QUESTIONED. IT ALSO CERTIFIES YOU'RE USING THE VEHICLE FOR OFFICIAL GOVERNMENT BUSINESS ONLY!

VEHICLE

DATE	TYPE
21 JANUARY 1956	TRUCK
DISPATCHING ORGANIZATION	
69TH TANK BN.	
1ST OPERATOR	
P.F.C. A.C. THOMAS	
OPERATOR'S SIGNATURE	
Alfred C. Thomas	
2D OPERATOR	

3 BEFORE OPERATION---GIVE YOUR TRUCK THE ONCE OVER TO BE SURE IT ISN'T DAMAGED OR ANYTHING MISSING. IF IT'S OKAY PLACE A CHECK MARK IN THE FIRST COLUMN WHERE IT SHOWS 1st OPERATOR. WHEN SOMETHING'S MISSING YOU'D BETTER SAY SO ON THE BACK, UNDER REMARKS!

1. BEFORE OPERATION	OPERAT		
	1ST	2D	3
DAMAGE, PILFERAGE	✓	✓	

4 A trip ticket is issued for each 24 hours. If you're the second person to get the truck on that day, then you'd put your checkmark in the 2nd Operator column.

FUEL OIL, WATER	✓	✓

5 NEXT CHECK THE AMOUNT OF FUEL IN THE TANK. IN ADMINISTRATIVE VEHICLES ADD FUEL IF THE GAS GAGE SHOWS LESS THAN HALF FULL, OR IF YOU'RE GOING ON A LONG HAUL. IN TACTICAL VEHICLES KEEP THE TANK FULL AT ALL TIMES. FUEL LEVEL SHOULD BE AT LEAST TWO INCHES BELOW TANK FILLER NECK TO PROVIDE SPACE FOR EXPANSION. BE SURE TO LOOK FOR LEAKS. CHECK SPARE FUEL CONTAINERS (IF ANY).

WHEN YOU ADD FUEL...

PUT DOWN HOW MUCH IN "TOTAL (FUEL GALLON'S)" BLOCK.

6 **NEED OIL???**

IF YOU HAVE TO ADD SOME, JOT DOWN HOW MUCH IN SPACE UNDER "ADMINISTRATION NO" BLOCK, AND **INITIAL** IT.

BEFORE YOU GO ON — POST THE PIN-UP ON THE NEXT PAGE

Every driver of a wheeled vehicle must have a DD Form 110 properly signed. It's the official authorization for driving the vehicle.

Dig out the T M that belongs with your truck and turn to the Preventive Maintenance Service section. Use it to make your check—then you'll be sure not to miss anything.

3

BEFORE OPERATION---GIVE YOUR TRUCK THE ONCE OVER TO BE SURE IT ISN'T DAMAGED OR ANYTHING MISSING. IF IT'S OKAY PLACE A CHECK MARK IN THE FIRST COLUMN WHERE IT SHOWS 1st OPERATOR. WHEN SOMETHING'S MISSING YOU'D BETTER SAY SO ON THE BACK, UNDER REMARKS!

1. BEFORE OPERATION	OPERA		
	1ST	2D	3
DAMAGE, PILFERAGE	✓	✓	

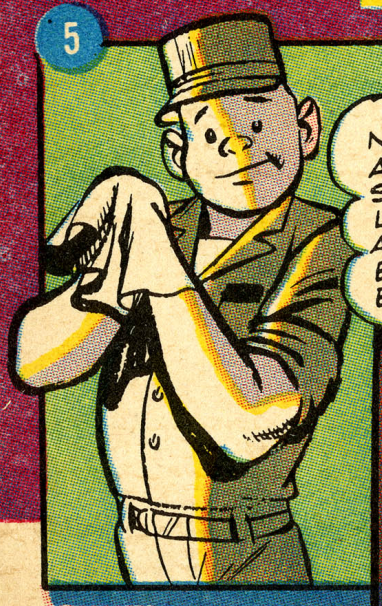
4

A trip ticket is issued for each 24 hours. If you're the second person to get the truck on that day, then you'd put your checkmark in the 2nd Operator column.

FUEL	OIL, WATER	✓ ✓

5

NEXT CHECK THE AMOUNT OF FUEL IN THE TANK. IN ADMINISTRATIVE VEHICLES ADD FUEL IF THE GAS GAGE SHOWS LESS THAN HALF FULL, OR IF YOU'RE GOING ON A LONG HAUL. IN TACTICAL VEHICLES KEEP THE TANK FULL AT ALL TIMES. FUEL LEVEL SHOULD BE AT LEAST TWO INCHES BELOW TANK FILLER NECK TO PROVIDE SPACE FOR EXPANSION. BE SURE TO LOOK FOR LEAKS. CHECK SPARE FUEL CONTAINERS (IF ANY).



6

WHEN YOU ADD FUEL...

PUT DOWN HOW MUCH IN "TOTAL (FUEL GALLON'S)" BLOCK.

NEED OIL ????.

IF YOU HAVE TO ADD SOME, JOT DOWN HOW MUCH IN SPACE UNDER "ADMINISTRATION NO." BLOCK, AND **INITIAL** IT.

BEFORE YOU GO ON — POST THE PIN-UP ON THE NEXT PAGE

JOE'S Dope Sheet

VEHICLE AND EQUIPMENT OPERATIONAL RECORD

DATE: 21 JANUARY 1956 | TYPE: TRUCK, 2½, M135 | REGISTRATION NO.: 6249842 | ADMINISTRATION NO.: N 5

DISPATCHING ORGANIZATION	BEFORE OPER.	DURING OPER.	AFTER OPER.	ACTION	TIME	MILES	TOTAL (Fuel gallons)	TOTAL (Oil quarts)
69TH TANK BN.							30 A.C.T.	1 A.C.T.
1ST OPERATOR: P.F.C. A.C. THOMAS	✓	X	X	IN	0940	6525	REPORT TO: LT. B. BURKE	
OPERATOR'S SIGNATURE: Alfred C. Thomas				OUT	0800	6489	DISPATCHER'S SIGNATURE: H. W. Tucker	
				TOTAL	1hr 40M	36		
2D OPERATOR: SGT. WILLIAM HARRIS	✓	✓	✓	IN	1130	6535	REPORT TO: CWO HAROLD GAUTHIER	
OPERATOR'S SIGNATURE: William Harris				OUT	1015	6525	DISPATCHER'S SIGNATURE: H. W. Tucker	
				TOTAL	1hr. 15M.	10		
3D OPERATOR				IN			REPORT TO	
OPERATOR'S SIGNATURE				OUT			DISPATCHER'S SIGNATURE	
				TOTAL				
4TH OPERATOR				IN			REPORT TO	
OPERATOR'S SIGNATURE				OUT			DISPATCHER'S SIGNATURE	
				TOTAL				

NOTE. Items checked by driver certify appropriate Maintenance Service has been performed. Signatures of the dispatcher, operator, and user certify that vehicle was dispatched and used for Official Government Business ONLY.

DD FORM 1 DEC 53 110 — EDITION OF 1 DEC 48 MAY BE USED. — 16—68857-1

TEAR OFF PORTION

PREVENTIVE MAINTENANCE SERVICES

LEGEND: ✓—O. K. X—DEFECTIVE

DATE: 21 JANUARY 1956 | TYPE: TRUCK, 2½, M135 | REGISTRATION NO.: 6249842 | UNIT NO.: N5

1. BEFORE OPERATION	OPERATOR 1ST	2D	3D	4TH	2. DURING OPERATION	OPERATOR 1ST	2D	3D	4TH	3. AFTER OPERATION	OPERATOR 1ST	2D	3D	4TH
DAMAGE, PILFERAGE	✓	✓			INSTRUMENTS	✓	✓			LIGHTS AND REFLECTORS	✓	✓		
LEAKS GENERAL	✓	✓			BRAKES	X	✓			SAFETY DEVICES	✓	✓		
FUEL, OIL, WATER	✓	✓			CLUTCH	✓	✓			BRAKES	⊘	✓		
ENGINE WARM-UP	✓	✓			STEERING	✓	✓			AIR TANKS (Drain)	✓	✓		
INSTRUMENTS	✓	✓			ENGINE OPERATION	✓	✓			FUEL, OIL, WATER (Refill)	✓	✓		
SAFETY DEVICES	✓	✓			UNUSUAL NOISES	✓	✓			*DRIVE BELTS				
TOOLS AND EQUIPMENT	✓	✓								*BATTERY LEVEL				
PUBLICATIONS	✓	✓								*ANTI-FREEZE	✓	✓		
TIRES	✓	✓								*TIRES (Damage) (gage)	✓	✓		
										*CLEAN (As required)	✓	✓		
										TOOL AND EQUIPMENT	✓	✓		
										LUBRICATION	✓	✓		

I CERTIFY THAT I HAVE PERFORMED THE MAINTENANCE REQUIRED IN PREVENTIVE MAINTENANCE SECTION

1ST OPERATOR: Alfred C. Thomas	4TH OPERATOR
2D OPERATOR: William Harris	INSPECTED BY: Ray Tiger (mechanic)
3D OPERATOR	INSPECTED BY: Sgt. Fred Wright (section leader)

DETACHED FROM DD FORM 110, 1 DEC 53 — 16—68857-1

WE HAVE THE WORLD'S BEST EQ

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JOE'S Dope Sheet

Please examine the form I display
It will sure come in handy one day
When you fill it out right
You avoid oversight
And prevent maintenance trouble that way.

VEHICLE AND EQUIPMENT OPERATIONAL RECORD

DATE: 21 JANUARY 1956 | TYPE: TRUCK, 2½, M135 | REGISTRATION NO.: 6249842 | ADMINISTRATION NO.: N3

DISPATCHING ORGANIZATION: 697TH TANK BN.

	BEFORE OPER.	DURING OPER.	AFTER OPER.
1ST OPERATOR: PFC. A.C. THOMAS	✓	X	X
OPERATOR'S SIGNATURE: Alfred C. Thomas			
2D OPERATOR: SGT. WILLIAM HARRIS	✓	✓	✓
OPERATOR'S SIGNATURE: William Harris			
3D OPERATOR			
OPERATOR'S SIGNATURE			
4TH OPERATOR			
OPERATOR'S SIGNATURE			

ACTION	TIME	MILES	TOTAL (Fuel gallons) / TOTAL (Oil quarts)
IN	0940	6525	30 A.C.T. / 1 A.C.T.
OUT	0800	6489	REPORT TO: LT. B. BURKE
TOTAL	1h 40m	36	DISPATCHER'S SIGNATURE: H.W. Tucker
IN	1130	6535	REPORT TO: CWO HAROLD GAUTHIER
OUT	1015	6525	DISPATCHER'S SIGNATURE: H.W. Tucker
TOTAL	1h 15m	10	
IN			REPORT TO
OUT			DISPATCHER'S SIGNATURE
TOTAL			
IN			REPORT TO
OUT			DISPATCHER'S SIGNATURE
TOTAL			

NOTE. Items checked by driver certify appropriate Maintenance Service has been performed. Signatures of the dispatcher, operator, and user certify that vehicle was dispatched and used for Official Government Business ONLY.

DD, 1 DEC 55 110 — EDITION OF 1 DEC 48 MAY BE USED.

TEAR OFF PORTION

PREVENTIVE MAINTENANCE SERVICES

LEGEND: Y—O. K. X—DEFECTIVE

DATE: 21 JANUARY 1956 | TYPE: TRUCK, 2½, M135 | REGISTRATION NO.: 6249842 | UNIT NO.: N3

1. BEFORE OPERATION	OPERATOR 1ST	2D	3D	4TH
DAMAGE-PILFERAGE	✓	✓		
LEAKS GENERAL	✓	✓		
FUEL, OIL, WATER	✓	✓		
ENGINE WARM-UP	✓	✓		
INSTRUMENTS	✓	✓		
SAFETY DEVICES	✓	✓		
TOOLS AND EQUIPMENT	✓	✓		
PUBLICATIONS	✓	✓		
TIRES	✓	✓		

2. DURING OPERATION	OPERATOR 1ST	2D	3D	4TH
INSTRUMENTS	✓	✓		
BRAKES	X	✓		
CLUTCH	✓	✓		
STEERING	✓	✓		
ENGINE OPERATION	✓	✓		
UNUSUAL NOISES	✓	✓		

3. AFTER OPERATION	OPERATOR 1ST	2D	3D	4TH
LIGHTS AND REFLECTORS	✓			
SAFETY DEVICES	✓			
BRAKES	✓			
AIR TANKS (Drain)	✓			
FUEL, OIL, WATER (Refill)	✓			
*DRIVE BELTS				
*BATTERY LEVEL				
*ANTI-FREEZE				
*TIRES (Change / Rot)	✓			
*CLEAN (As required)	✓			
FIEL AND EQUIPMENT	✓			
LUBRICATION	✓			

I CERTIFY THAT I HAVE PERFORMED THE MAINTENANCE REQUIRED IN PREVENTIVE MAINTENANCE SECTION

1ST OPERATOR: Alfred C. Thomas — 4TH OPERATOR:

2D OPERATOR: William Harris — INSPECTED BY: Roy Tiger (Mechanic)

3D OPERATOR — INSPECTED BY: Sgt. Fred Wright (section leader)

DETACHED FROM DD FORM 110, 1 DEC 55

Column 1 through 6 completed when specified by the Military Department concerned.

DESTINATION (a)	TIME: ARRIVE (b)	TIME: DEPART (c)	ARRIVAL MILEAGE (d)	LOAD, CARGO PASS (e)	CARGO UNLOAD, LOAD TIME (f)	PASS WAITING TIME (g)	TRAVEL TIME (h)	RELEASED BY - SIGNATURE (i)
FROM BN. MOTOR POOL	—	0800	6489	0				
TO B. Supply	0810	0825	6493	7½				
TO BN. Supply	0840	0850	6512	10½				
TO A MESS HALL	0905	0925	6520	0				
TO BN. MOTOR POOL	0940	—	6525	0				B. Burke, 1ST LT.
TO								
TO								
FROM BN MOTOR POOL	—	1015	6525	0				
TO C. MOTOR SHOP	1025	1058	6528	60				
TO BN. MOTOR SHOP	1105	1145	6531	0				
TO BN. MOTOR POOL	1200	—	6535	0				Harold Gauthier, CWO
TO								
TO								
TO								
TO								
TO								
TOTALS								

U. S. GOVERNMENT PRINTING OFFICE 16—69827-1

REMARKS: Brakes pull to one side a.C.T. — Corrected R.G. 21 January 1956 Time - 0930

U. S. GOVERNMENT PRINTING OFFICE 16—69827-1

WE HAVE THE WORLD'S BEST EQUIPMENT... Take care of it

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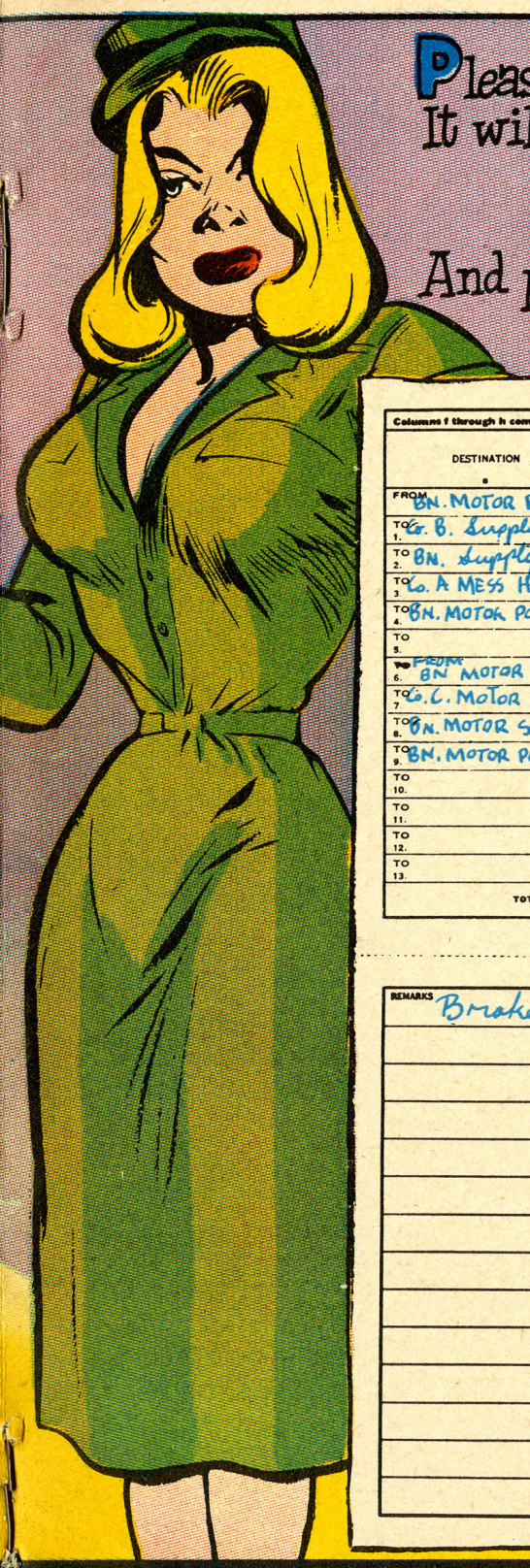


Please examine the form I display
It will sure come in handy one day
When you fill it out right
You avoid oversight
And prevent maintenance trouble that way.

Columns f through h completed when specified by the Military Department concerned.

DESTINATION a	TIME ARRIVE b	TIME DEPART c	ARRIVAL MILEAGE d	LOAD CARGO/ PASS e	CARGO LOAD/ UNLOAD TIME f	PASS. WAITING TIME g	TRAVEL TIME h	RELEASED BY - SIGNATURE i
FROM BN. MOTOR POOL	—	0800	6484	0				
TO 1. Co. B. Supply	0810	0825	6493	30%				
TO 2. BN. Supply	0840	0850	6512	60%				
TO 3. Co. A MESS HALL	0905	0925	6520	0/5				
TO 4. BN. MOTOR POOL	0940	—	6525	0/0				B. Burke, 1ST. LT.
TO 5.								
TO 6. FROM BN MOTOR POOL	—	1015	6525	0/0				
TO 7. Co. C. MOTOR SHOP	1025	1055	6528	60%				
TO 8. BN. MOTOR SHOP	1105	1145	6531	0/0				
TO 9. BN. MOTOR POOL	1200	—	6535	0/0				Harold Gauthier, CWO
TO 10.								
TO 11.								
TO 12.								
TO 13.								
TOTALS								

U. S. GOVERNMENT PRINTING OFFICE 16—69867-1

REMARKS Brakes pull to one side
a. C.T.

Corrected R. G.
21 January 1956
Time - 0950

U. S. GOVERNMENT PRINTING OFFICE 16—69867-1

...UIPMENT...Take care of it

BY WILL EISNER

TEAR OFF PORTION

PREVENTIVE MAINTENANCE SERVICES																LEGEND: Y—O. K. X—DEFECTIVE *—WEEKLY SERVICE
DATE	TYPE				REGISTRATION NO.											UNIT NO.
1. BEFORE OPERATION	OPERATOR 1ST	2D	3D	4TH	2. DURING OPERATION	OPERATOR 1ST	2D	3D	4TH	3. AFTER OPERATION	OPERATOR 1ST	2D	3D	4TH		
DAMAGE, PILFERAGE					INSTRUMENTS					LIGHTS AND REFLECTORS						
LEAKS GENERAL					BRAKES					SAFETY DEVICES						
FUEL, OIL, WATER					CLUTCH					BRAKES						
ENGINE WARM-UP					STEERING					AIR TANKS (*Drain*)						
INSTRUMENTS					ENGINE OPERATION					FUEL, OIL, WATER (*Refill*)						
SAFETY DEVICES					UNUSUAL NOISES					*DRIVE BELTS						
TOOLS AND EQUIPMENT										*BATTERY LEVEL						
PUBLICATIONS										*ANTI-FREEZE						
TIRES										*TIRES (*Damage*) (*gage*)						
										*CLEAN (*As required*)						

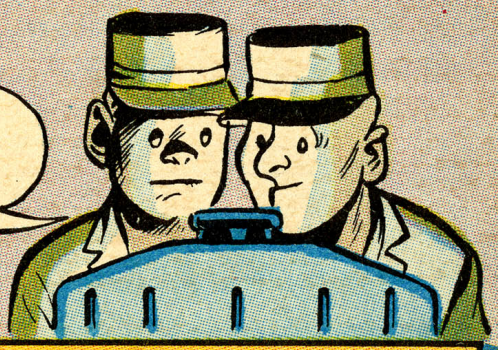
I CERTIFY THAT I HAVE PERFORMED THE MAINTENANCE REQUIRED IN PREVENTIVE MAINTENANCE SECTION

1ST OPERATOR	4TH OPERATOR
2D OPERATOR	INSPECTED BY
3D OPERATOR	INSPECTED BY

DETACHED FROM DD FORM 110, 1 DEC 53

7

WHILE THE HOOD IS UP, TAKE A LOOK AT THE COOLANT LEVEL IN THE COOLING SYSTEM AND NOTE ANY LEAKS. IN COLD WEATHER IF YOU MUST ADD WATER WHEN YOU HAVE ANTI-FREEZE, RUN THE ENGINE 4 OR 5 MINUTES, LONG ENOUGH TO PROPERLY MIX THE ADDED WATER WITH THE COOLANT. THE RUNNING PERIOD WILL ALLOW THE THERMOSTAT TO OPEN FOR A BETTER MIXTURE. THEN CHECK THE FREEZING POINT WITH A HYDROMETER.



If your vehicle is a hydra-matic job, check transmission oil level. Place transmission in "N" (Neutral). Start engine and run 3-5 minutes. With engine idling, check oil level on the bayonet gage.

TIRES	✓	✓	

8

CORRECT PRESSURE

HOW ABOUT SPARE?

BE SURE YOUR TIRES HAVE THE RIGHT AMOUNT OF AIR—NOT TOO MUCH AND NOT TOO LITTLE. (YOUR TRIP TICKET DOESN'T HAVE TIRES MARKED ON IT...SO JUST WRITE IT IN AND CHECK IF THEY'RE OK) THE SPARE TIRE SHOULD BE CHECKED TO SEE THAT IT HAS ENOUGH AIR. MAKE SURE IT'S FASTENED TIGHT IN THE CARRIER!

9

SAFETY DEVICES	✓	✓
TOOLS AND EQUIPMENT	✓	✓

CHECK YOUR LIGHTS, REFLECTORS, HORN, FIRE EXTINGUISHER, MIRRORS, PAULINS, TOOLS, ETC., TO MAKE SURE THEY'RE ALL THERE, IN THE RIGHT PLACE AND IN GOOD CONDITION. IF DETACHABLE EQUIPMENT IS NOT ALL THERE, INDICATE UNDER "**REMARKS**". THIS IS GOOD INSURANCE AGAINST A STATEMENT OF CHARGES!

BEEP

10

LEAKS GENERAL	✓	✓

WITH ENGINE RUNNING.... AND FUEL, ENGINE OIL, TRANSMISSION OIL, AND COOLANT... AT OPERATING PRESSURES, CHECK UNDER THE TRUCK AND IN THE ENGINE FOR SIGNS OF LEAKS!

11

ENGINE WARM-UP	✓	✓
INSTRUMENTS	✓	✓

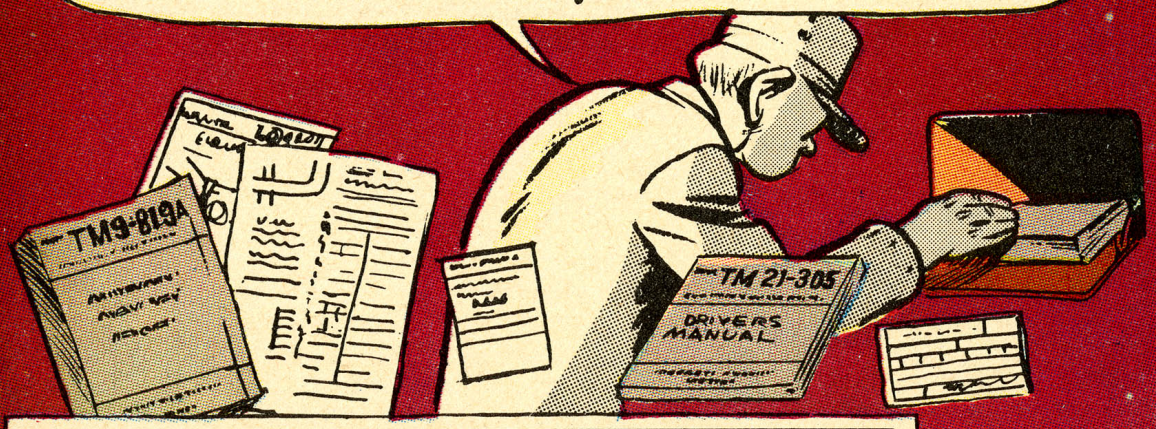
ALSO WITH THE ENGINE RUNNING, CHECK **ALL** INSTRUMENTS FOR NORMAL READINGS!

12

PUBLICATIONS	✓	✓

The publications aren't listed in some TM's for the daily check but they're on the weekly check. Since there's no weekly for wheeled vehicles, (it's now Bi-weekly) be on the safe side.

CHECK AND MAKE **SURE** THAT YOU'VE GOT YOUR LUBE ORDER, TM SF 91 (ACCIDENT REPORT) AND A DA FORM 518 (ACCIDENT IDENTIFICATION CARD). IN YOUR POCKET OR GLOVE COMPARTMENT YOU SHOULD HAVE DD 313 (U.S. GOVERNMENT OPERATOR'S PERMIT) AND TM 21-305, DRIVER'S MANUAL!



VEHICLE AND EQUIPMENT OPERATIONAL RECORD

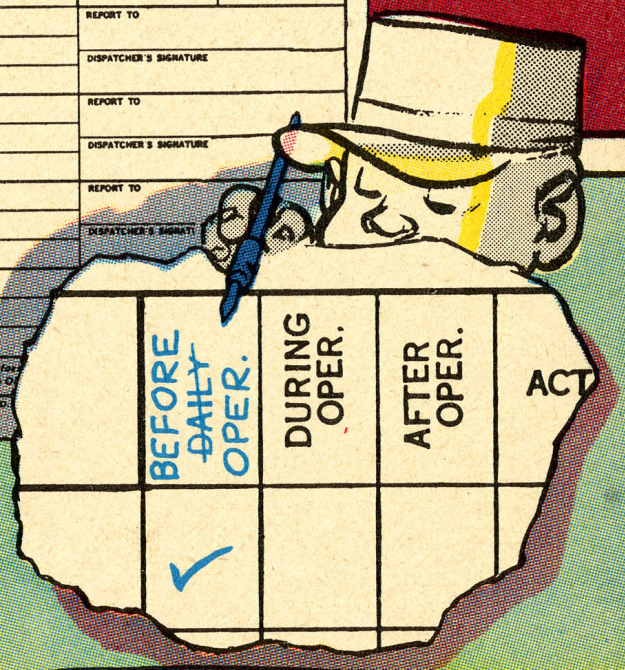
DATE	TYPE	REGISTRATION NO.	ADMINISTRATION NO.

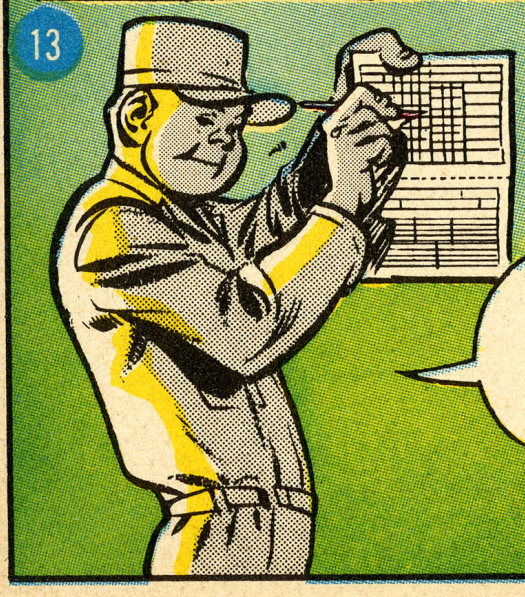
DISPATCHING ORGANIZATION	DAILY	DURING OPER.	AFTER OPER.	ACTION	TIME	MILES	TOTAL (Fuel gallons)	TOTAL (Oil quarts)
1ST OPERATOR				IN			REPORT TO	
OPERATOR'S SIGNATURE				OUT			DISPATCHER'S SIGNATURE	
				TOTAL				
2D OPERATOR				IN			REPORT TO	
OPERATOR'S SIGNATURE				OUT			DISPATCHER'S SIGNATURE	
				TOTAL				
3D OPERATOR				IN			REPORT TO	
OPERATOR'S SIGNATURE				OUT			DISPATCHER'S SIGNATURE	
				TOTAL				
4TH OPERATOR				IN				
OPERATOR'S SIGNATURE				OUT				
				TOTAL				

NOTE: Items checked by driver certify appropriate Maintenance Service has been performed and certify that vehicle was dispatched and used for Official Government Business.

DD FORM 1 DEC 53 110 EDITION OF 1 DEC 48 MAY BE USED

13





IF YOU FOUND EVERYTHING OKAY, CHANGE THAT **DAILY** TO **BEFORE OPERATION** ON THE **TOP HALF** OF THE TICKET AND PUT A **CHECK MARK** UNDER IT!

14

NOW FOR THE **DURING OPERATION!** WHILE DRIVING TO YOUR DESTINATION GLANCE AT ALL INSTRUMENTS FOR **NORMAL** READINGS....

PREVENTIVE MAINTENANCE SERVICES

LEGEND
√—O. K.
X—DEFECTIVE
*—WEEKLY SERVICE

DATE | TYPE | REGISTRATION NO. | UNIT NO.

1. BEFORE OPERATION	OPERATOR 1ST	2D	3D	4TH	2. DURING OPERATION	OPERATOR 1ST	2D	3D	4TH	3. AFTER OPERATION	OPERATOR 1ST	2D	3D	4TH
DAMAGE, PILFERAGE					INSTRUMENTS					LIGHTS AND REFLECTORS				
LEAKS GENERAL					BRAKES					SAFETY DEVICES				
FUEL, OIL, WATER					CLUTCH					BRAKES				
ENGINE WARM-UP					STEERING					AIR TANKS (*Drain*)				
INSTRUMENTS					ENGINE OPERATION					FUEL, OIL, WATER (*Refill*)				
SAFETY DEVICES					UNUSUAL NOISES					*DRIVE BELTS				
TOOLS AND EQUIPMENT										*BATTERY LEVEL				
PUBLICATIONS										*ANTI-FREEZE				
										*TIRES (*Damage*) (*gage*)				
										*CLEAN (*As required*)				

16

15

14

REGI... M135 6241

AINTENANCE REQUIRED IN PREVENTIVE MAINTENANCE SECTION

2. DURING OPERATION	OPERAT 1ST	2D	3
INSTRUMENTS	✓	✓	
BRAKES	X	✓	
CLUTCH	✓		
STEERING			

4TH OPERATOR

INSPECTED BY

INSPECTED BY

CHED FROM DD FORM 110, 1 DEC 53

16—66657-1

15

ENGINE OPERATION	✓	✓
UNUSUAL NOISES	✓	

CLINK RATTLE

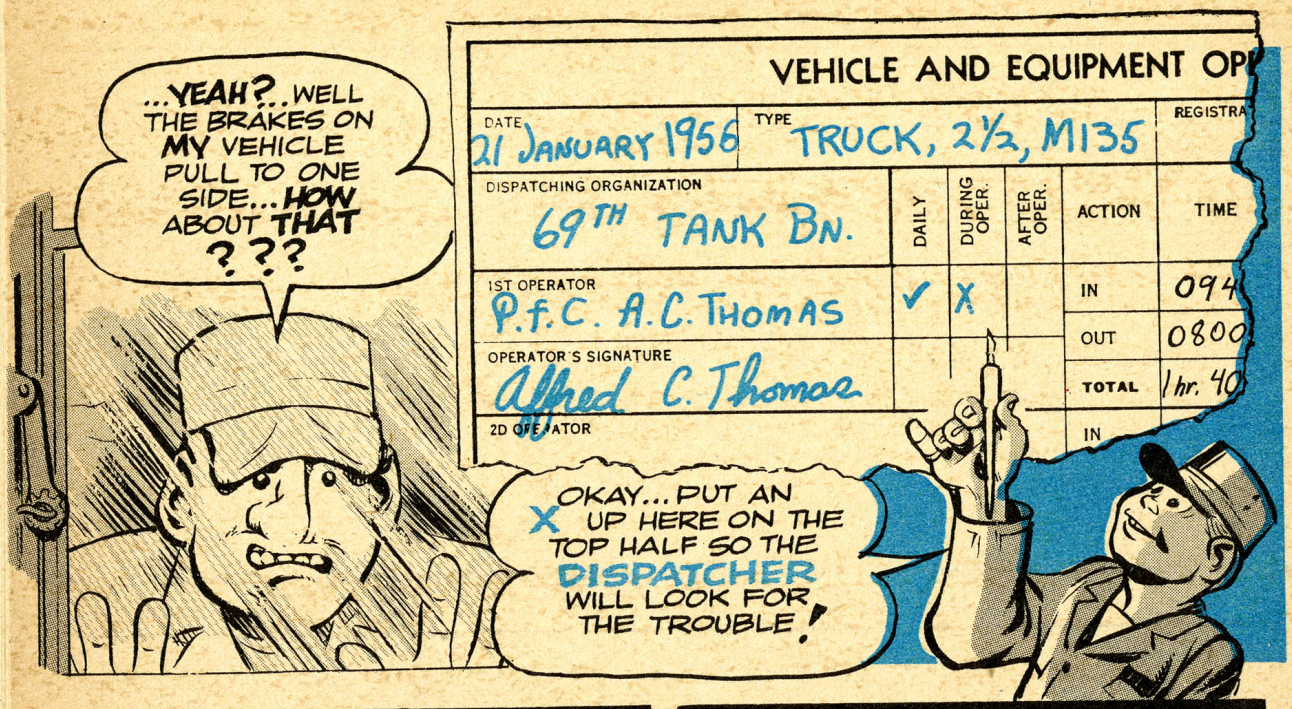
...AND LISTEN FOR ANY SOUND THAT MAY MEAN TROUBLE. COULD BE KNOCKS SQUEAKS, RATTLES OR HUMS!

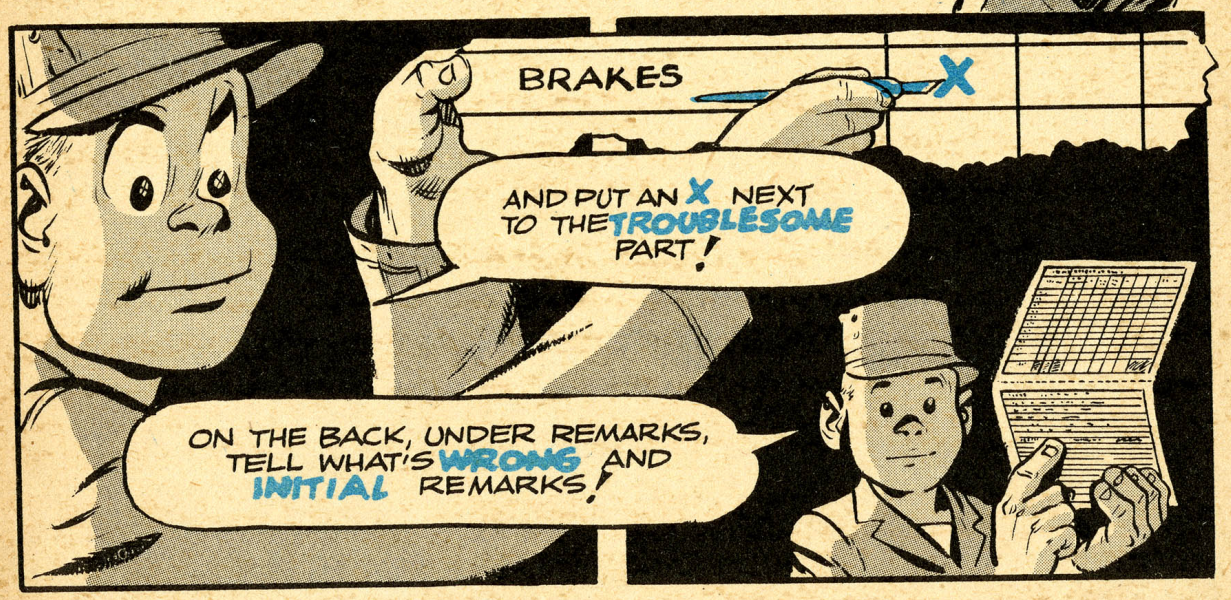
16

BRAKES	X	✓
CLUTCH	✓	✓
STEERING	✓	✓

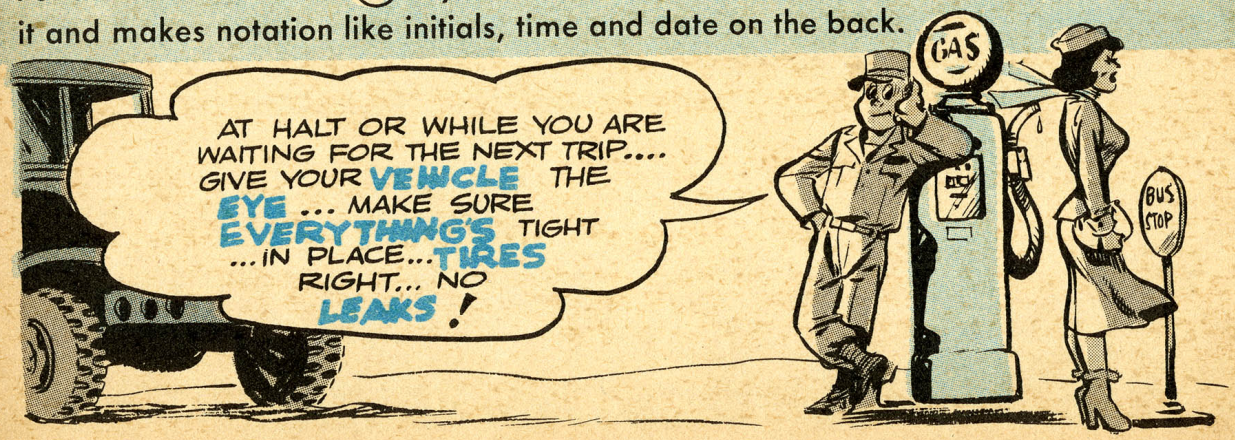
TICK TICK TICK TICK TICK TICK TICK TICK

EVERY TIME YOU USE THE BRAKES AND CLUTCH, SHIFT THE GEARS OR TURN YOUR VEHICLE, MAKE LIKE IT'S A **TEST** AND SEE THAT THEY ARE **BEHAVING** LIKE THEY **SHOULD!**





Put a circle around the (X) if you fixed the brakes or, if the mechanic fixes it, he circles it and makes notation like initials, time and date on the back.



PREVENTIVE MAINTENANCE SERVICES

LEGEND
✓—O. K.
X—DEFECTIVE
•—WEEKLY SERVICE

DATE | TYPE | REGISTRATION NO. | UNIT NO.

	OPERATOR 1ST	2D	3D	4TH
D				
LE				
FU				
ENG				
INST				
SAF				
TO				
PU				

2. DURING OPERATION	OPERATOR 1ST	2D	3D	4TH
INSTRUMENTS				
BRAKES				
CL				
ST				

3. AFTER OPERATION	OPERATOR 1ST	2D	3D	4TH
LIGHTS AND REFLECTORS				
SAFETY DEVICES				
BRAKES				
AIR TANKS (*Drain*)				
FUEL, OIL, WATER (*Refill*)				
• DRIVE BELTS				
• BATTERY LEVEL				
• ANTI-FREEZE				
• TIRES (*Damage*) (*gage*)				
• CLEAN (*As required*)				
TOOLS AND EQUIPMENT				

WHEN YOU'VE FINISHED WITH YOUR VEHICLE

DO YOUR AFTER OPERATION PREVENTIVE MAINTENANCE BEFORE YOU TURN IT IN TO THE DISPATCHER!

I CERTIFY THAT I HAVE PERFORME… …IRED IN PREVENTIV… …INT… …CE SECTION

1ST OPERATOR	4TH OPERATOR
2D OPERATOR	INSPECTED BY
3D OPERATOR	INSPECTED BY

DETACHED FROM DD FORM 110, 1 DEC 53 — 16—69857-1

17

FUEL, OIL, WATER (*Refill*) ✓ ✓

CHECK THE AMOUNT OF FUEL IN TANK AND LOOK FOR LEAKS, ESPECIALLY IF IT TRAVELED OVER ROUGH ROADS. ADD GAS AND OIL. ON A HYDRAMATIC JOB TAKE A LOOK AT THE TRANSMISSION OIL LEVEL AND MAKE SURE IT'S WHERE IT'S SUPPOSED TO BE... BE SURE TO MARK IN THE AMOUNT PUT INTO THE VEHICLE AND INITIAL.

ADMINISTRATION NO.

TOTAL (Fuel gallons) 30 A.C.T.

TOTAL (Oil quarts) 1 A.C.I.

REPORT TO LT B. B

DISPATCHER'S SIGNATURE H.W. T…

REPORT TO

18

⊛ANTI-FREEZE ✓ ✓

MAKE SURE THERE'S PLENTY OF WATER. (IN COLD WEATHER, BE SURE AND CHECK YOUR ANTI-FREEZE AFTER ADDING WATER.)

⊛Weekly

19

⊛TIRES (*Damage*) (*gage*)	✓	✓		

THE TIRES SHOULD HAVE ENOUGH **AIR** AND THE **SPARE** SHOULD BE **TIGHT** IN THE CARRIER. LOOK FOR **NAILS, GLASS**, OR **STONES** IN TIRES AND BETWEEN DUALS. AFTER A LONG HARD HAUL OR TRIP, **TIRE AIR PRESSURE** MAY BE HIGHER THAN SPECIFIED IN THE OPERATION MANUAL, BUT **DO NOT** BLEED TIRES!

20

LIGHTS AND REFLECTORS	✓	✓	
SAFETY DEVICES	✓	✓	

⊛Weekly

MAKE **SURE** YOUR LAMPS, REFLECTORS, HORN, FIRE EXTINGUISHER, MIRRORS, PAULINS, ETC. ARE IN **GOOD OPERATING CONDITION!**

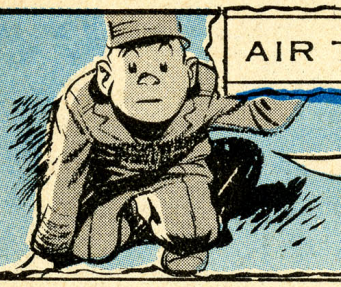
21

⊛CLEAN (*As required*)	✓	✓	

CLEAN **DIRT** AND **TRASH** FROM INSIDE OF BODY AND CAB. CLEAN GLASS, AND WHEN PRACTICAL, WIPE OFF THE OUTSIDE OF EQUIPMENT... ALSO CHECK ⊛**DRIVE BELTS** AND LEVEL OF ⊛**BATTERY WATER!**

⊛Weekly

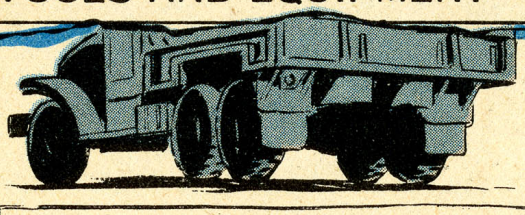
22 AIR TANKS (*Drain*) ✓ ✓



ON TRUCKS WITH AIR COMPRESSORS, OPEN DRAIN COCKS AND DRAIN AIR TANKS. IF YOU'RE LAST OPERATOR, CHECK TO SEE THAT TANK AND AIRLINE CONNECTIONS ARE TIGHT!

23 BRAKES ✗ ✓

24 TOOLS AND EQUIPMENT ✓ ✓



CHECK BRAKES! SEE THAT TOOLS AND EQUIPMENT ARE IN THE **RIGHT** PLACE!

VEHICLE AND EQUIPMENT OPERATIONAL RECORD

DATE	TYPE	REGISTRATION NO.	ADMINISTRATION NO.

DISPATCHING ORGANIZATION	DAILY	DURING OPER.	AFTER OPER.	ACTION	TIME	MILES	TOTAL (*Fuel gallons*)	TOTAL (*Oil quarts*)
1ST OPERATOR				IN			REPORT TO	
OPERATOR'S SIGNATURE				OUT			DISPATCHER'S SIGNATURE	
				TOTAL				
2D OPERATOR				IN			REPORT TO	
OPERATOR'S SIGNATURE				OUT			DISPATCHER'S SIGNATURE	
3D OPERATOR								
OPERATOR'S SIGNATURE								
4TH OPERATOR								
OPERATOR'S SIGNATURE								

29 30

NOTE: Items che… certify tha…

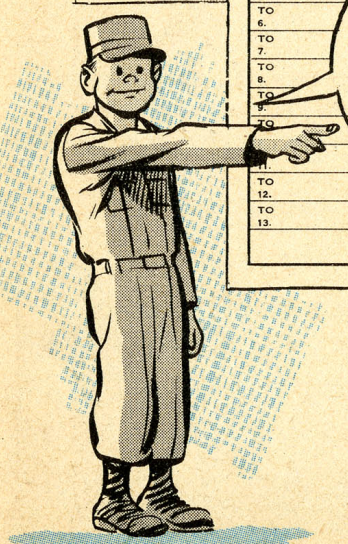
DD FORM 1 DEC 53 11…

Columns f through h completed when specified by the Military Department concerned.

DESTINATION	TIME ARRIVE b	TIME DEPART	ARRIVAL MILEAGE c	LOAD CARGO/ PASS. e	CARGO LOAD/ UNLOAD TIME	PASS. WAITING TIME	TRAVEL TIME	RELEASED BY—SIGNATURE
FROM								
TO 1.								
TO 2.								
TO 3.								
TO 4.								
TO 5.								
TO 6.								
TO 7.								
TO 8.								
TO 9.								
TO 10.								
TO 11.								
TO 12.								
TO 13.								
TOTALS								

25 26 27 31

U. S. GOVERNMENT PRINTING OFFICE 16—90857-1



HERE'S YOUR **LOCATION GUIDE** FOR THE FOLLOWING PAGES. REFER BACK TO THE SPOTS BY THE **NUMBERS** AS YOU HAVE BEEN DOING!

K.
EFECTIVE
EEKLY SERVICE
T NO.

	OPERATOR			
	1ST	2D	3D	4TH

I CERTIFY THAT I HAVE PERFORMED THE MAINTENANCE REQUIRED IN PREVENTIVE MAINTENANCE SECTION

1ST OPERATOR	4TH OPERATOR
2D OPERATOR	INSPECTED BY
3D OPERATOR	INSPECTED BY

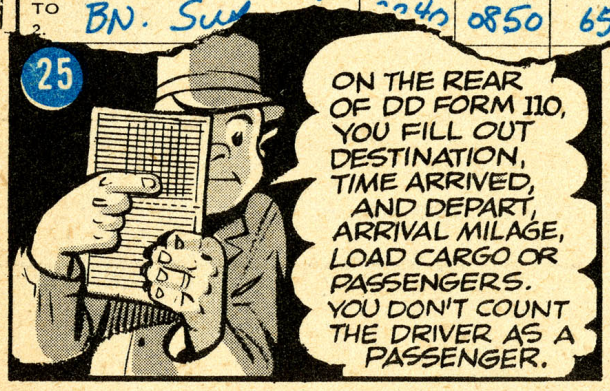
28

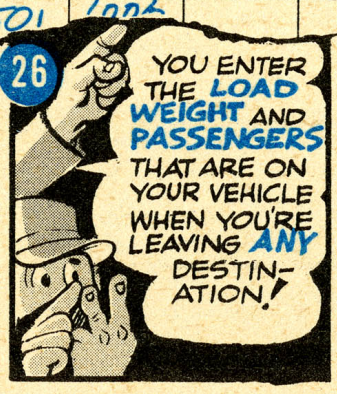
DETACHED FROM DD FORM 110, 1 DEC 53 16—90857-1

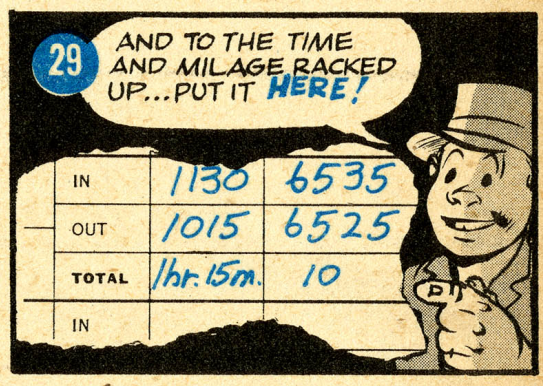
SEE NEXT PAGE

Columns f through h completed when specified by the Military Department concerned.

DESTINATION a	TIME ARRIVE b	TIME DEPART c	ARRIVAL MILEAGE d	LOAD CARGO/ PASS. e	CARGO LOAD/ UNLOAD TIME f	PASS. WAITING TIME g	TRAVEL TIME h
FROM BN. MOTOR POOL	—	0800	6489	0			
TO 1. Co. B Supply	0810	0825	6493	3000/0			
TO 2. BN. Sup	0840	0850	6501	1004			

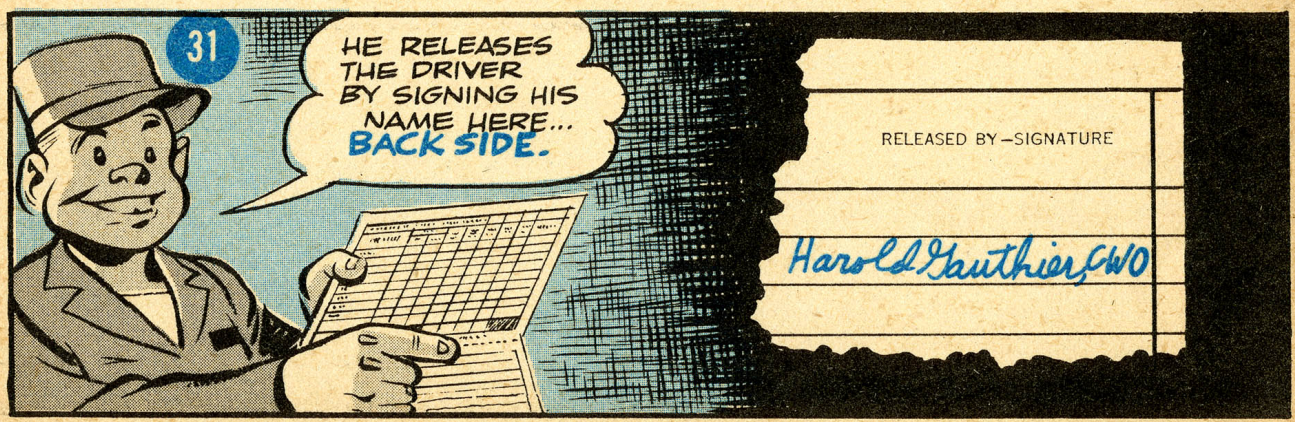


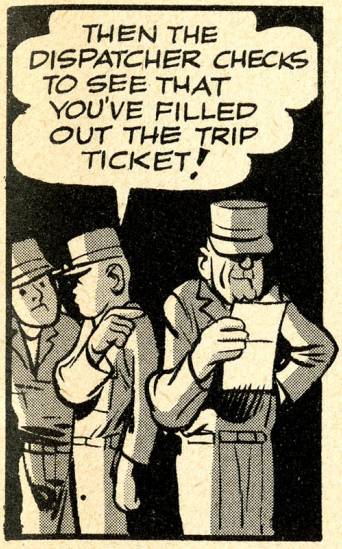


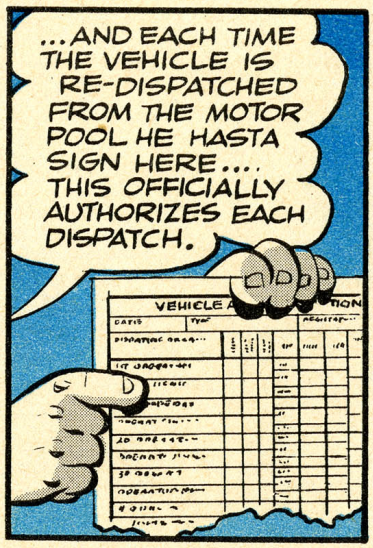


30 The dispatcher puts the official user's name in this column. This person may turn the vehicle over to another person for actual usage . . . in that case the driver should write in that person's name in the same spot and it's OK for this person to release the vehicle when he's done with it.

REPORT TO
CWO HAROLD GAUTHIER
DISPATCHER'S SIGNATURE
H. W. Tucker
REPORT TO

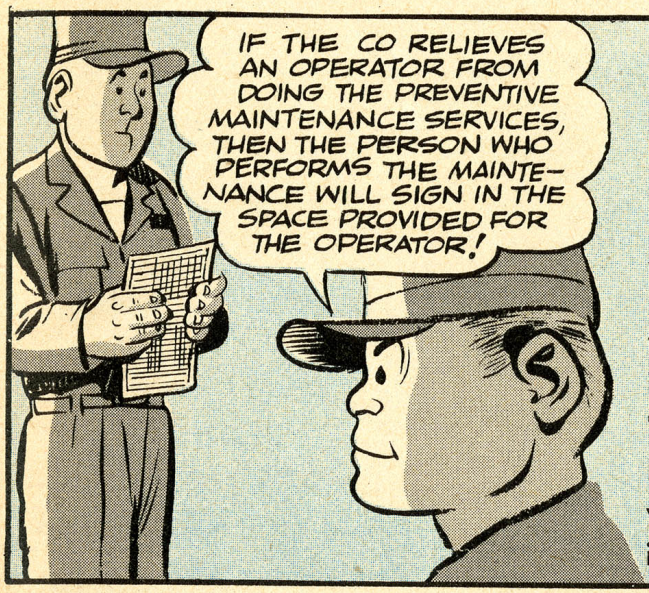




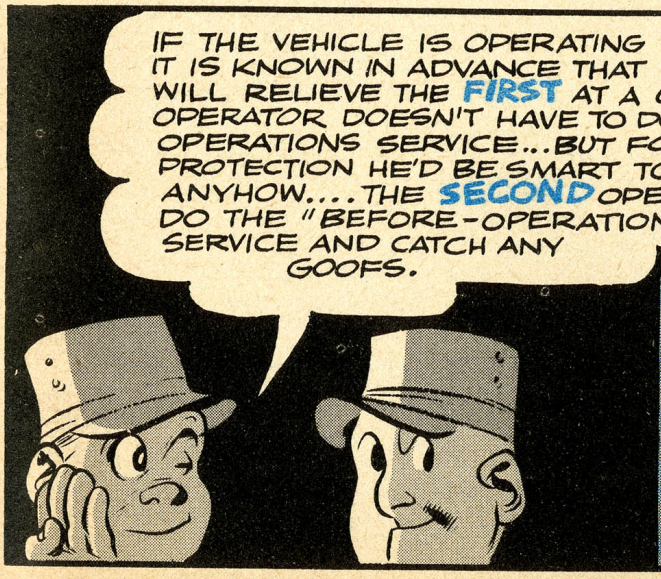


If the Dispatcher re-dispatches the same vehicle during the same 24 hours (0001 to 2400 hrs), use the same trip ticket. It can be used as many as four times in 24 hours. If more space is needed, then other trip tickets will be attached to the first one.

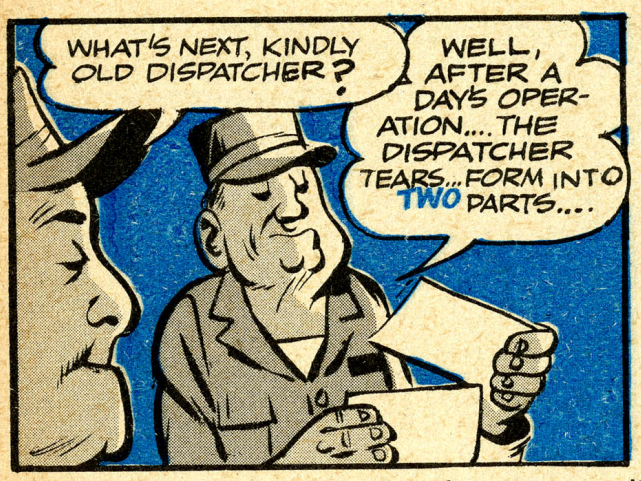
But anytime the trip ticket shows a deficiency . . . he can't dispatch it unless the responsible maintenance people fix the deficiency or say it's OK in writing (in the Remarks Section).

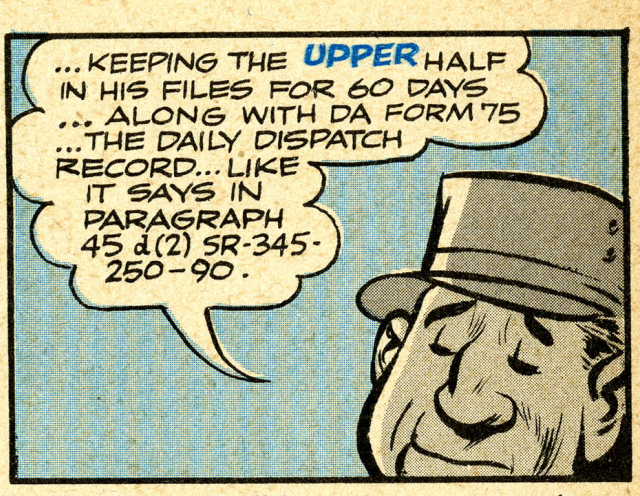


When a truck is assigned to a driver and relief driver—the driver assumes the over-all responsibility. The relief driver's name is written in the "2nd Operator" section and "Relief Driver" inserted. The relief driver also signs his name where it says "Operator Signature." The relief driver assists the driver in making the "Before Operation" and "After Operation" checks on the vehicle. He makes the "During Operation" check while he's driving. He enters his checks in the 2nd Operator's column.

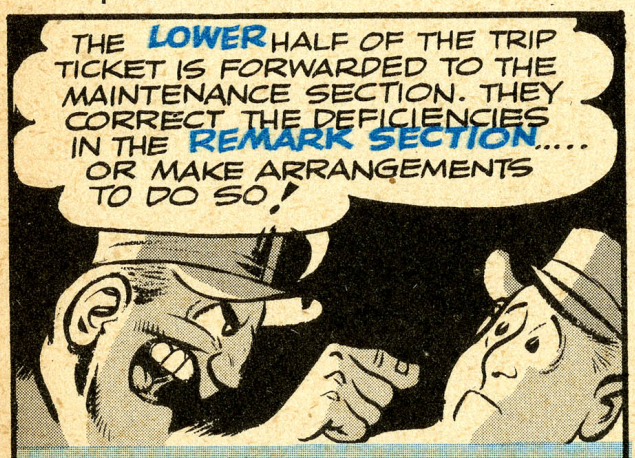


The driver should remember that if he fails to make his "Before Operation" check he has no protection against being charged with deficiencies which were due to faulty "After Operation" maintenance.

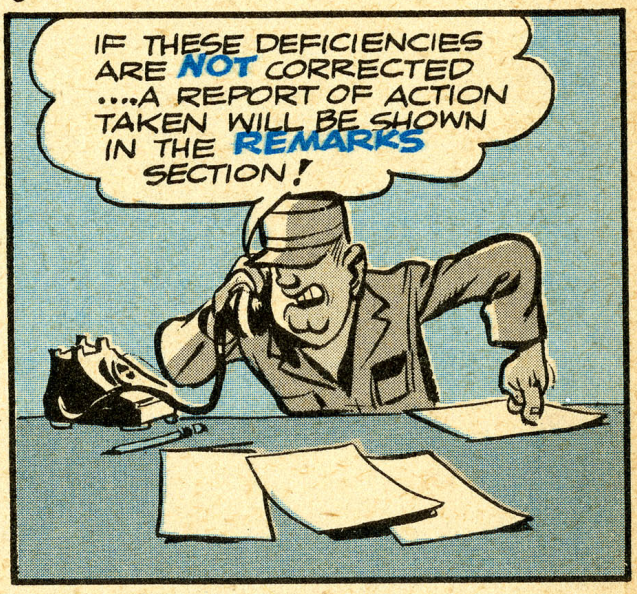


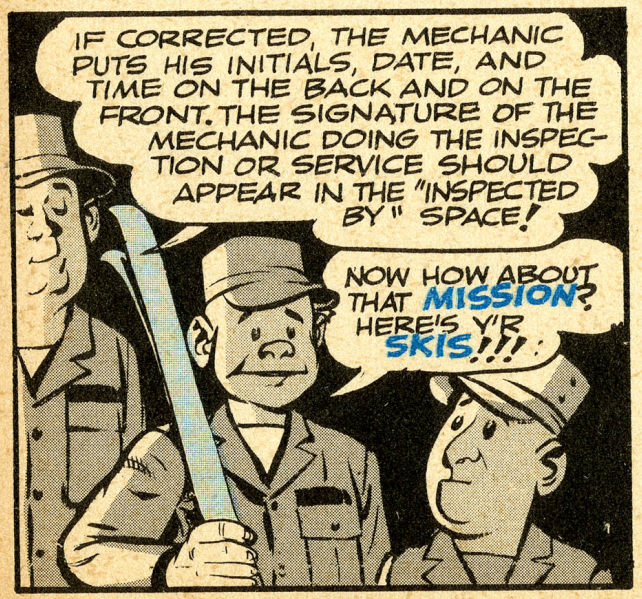


If a record of accident is shown on a dispatch ticket, it will be held in an accident suspense file until the accident reviewing officials tell him when to get rid of it.



(The motor sergeant may direct the driver to correct first echelon deficiencies.)





(and for a look at one completely filled out, look back at Pages 24 and 25.)

TOE-IN CHECKING

Dear Half-Mast,

How come all this trouble to check toe-in, like you told the warrant officer in PS No. 27, page 36? TM 9-819A doesn't say anything about chalking the tire and moving the vehicle. Why bother?

Sgt E. D. B.

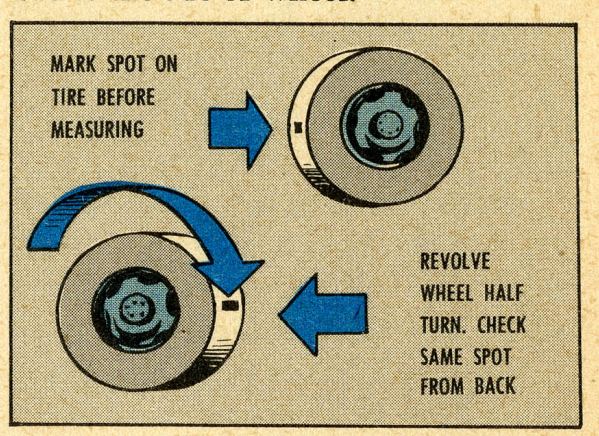
Dear Sgt E. D. B.,

The toe-in check you see in TM 9-819A is OK—but here's the joker: That procedure will only give you accurate results **if** your tires are brand new, your wheels are perfectly true and there's no dirt between the wheel and the hub flanges. Any slight variation in any of these places can throw it off.

Like this: Your toe-in is supposed to be from 5/32 inch to 7/32 inch like it says in the TM. That is 3/16 inch plus or minus 1/32 inch, right?

Now, are you absolutely sure there isn't 1/32 inch of variation in your wheel and tire? A tire doesn't have to be very old to have grown that much, or if it was installed just a little off center you'd get that much variation between the front and the rear. Look how little dirt or rust you'd have to have under your wheel mountings to throw the tire out a thirty-second of an inch. Or maybe somebody hit a curb or a rock with that wheel, you can see how easy it would be to get a little bend in it.

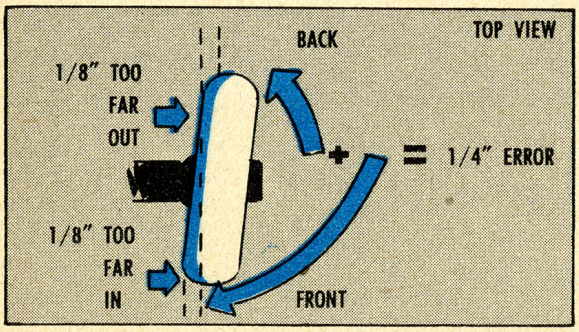
Now, here's the point: a variation of 1/32 inch, or even more, won't hurt the wheel a bit. It will still run all right as long as the toe-in is correct. So, by checking at one spot on the tire, and marking it, then revolving the wheel a half-turn and using the same spot check again, you cancel out any error that might exist due to the tire or wheel.



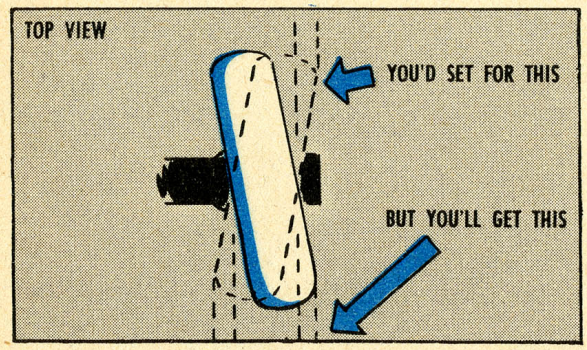
You see, if the spot you chose to check from happened to be 1/8 inch too far **in** when it was around front, it would still be 1/8 inch too far **in** when you revolved the wheel and checked it

from in back. So you'd get an accurate measure of your toe-in anyhow.

But if you used a spot that was 1/8 inch too far **in** when you checked in front, and didn't revolve the wheel, it's just possible that you might hit a spot that was 1/8 inch too far **out** when you checked in back. That would give you both variations added together, or an error of 1/4 inch. When you set your



toe-in to the published figure, actually you'd have a 1/16 inch toe-**out** on your truck. (And she'd steer like a witch.) See what I mean?



Always remember that your TM's tell you what you must do. They set the minimum standards below which you may not go. But—there's nothing to stop you from doing a **better** job and being **more** careful.

That's why I told the warrant officer to do it the hard way.

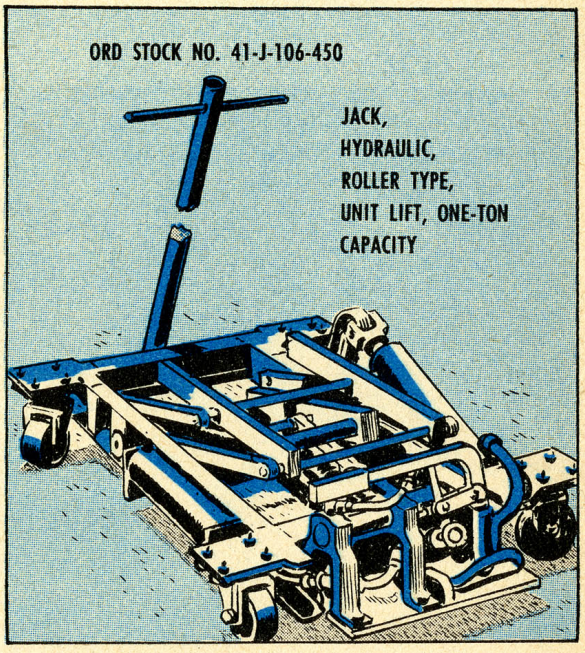
Half-Mast

HYDRAULIC DOLLY

Dear Half-Mast

Figure 83 of TM 9-837 (June 1951) shows a hydraulic dolly used in lowering the transmission of a 5-ton truck. What's the stock number of that dolly and where can I find it?

Mr. W. H. C.
Supply Officer, USAF



Dear Mr. W. H. C.,

The number, found in Sections 39 and 54 of SNL J-16, is 41-J-106-450. The correct nomenclature for the little bugger is Jack, hydraulic, roller type, unit lift one-ton capacity. You can also use the dolly for removing transfer cases, front and rear springs and a lot of other things in **all** your M-series vehicles.

Hard surface floors are best for this dolly. Its small casters make moving it about on dirt floors tough.

Half-Mast

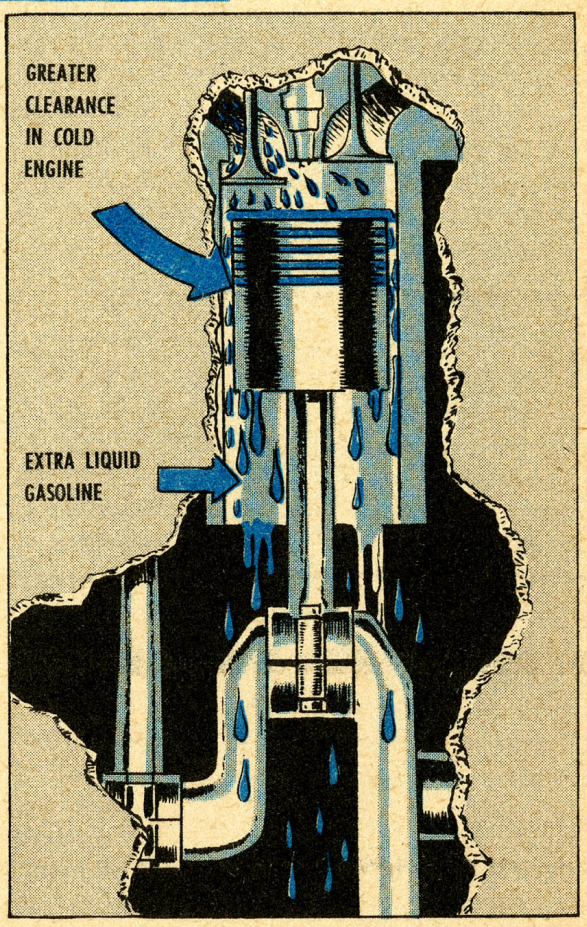
G-A-A-A-H—OVERCHOKING

Dear Half-Mast,

Some of my students at this driver's school have been screaming bloody, blue murder about a test question I ask them on how overchoking causes crankcase dilution.

I've looked through TM's and commercial manuals for a good explanation to make my position on this question more concrete, but can't find any. Please help me out, Sarge, before everything hits the fan.

S/Sgt W. C. D.



Dear S/Sgt W. C. D.,

Try this:

Vaporized gasoline's the only thing that'll fire in a cylinder. Gasoline won't evaporate very well in a cold engine—in spite of being sprayed through the carburetor. Some of the vapors that do form in the manifold will condense into liquid again when they hit the cold cylinder.

So, since vaporized gasoline is the only thing that'll fire in a cylinder, you add, by choking, extra gas to provide enough vapors to fire in spite of the liquid gasoline.

If you overchoke, pump the gas pedal or prime too much you get so much extra liquid gasoline in your engine that it runs down the cylinder walls into the crankcase. With the engine cold, the pistons and cylinders are contracted and the clearance between them is greater than when the engine's running and hot. Oil has also drained down. Which all means that you've got very little seal to hold gasoline on top of the piston, so it'll run down into your crankcase.

This kind of dilution usually evaporates itself out when the engine's running. But if you make a lot of little trips and let the engine get cold between them, you'll eventually dilute your oil so much with gasoline that it'll damage your engine.

It's a good bet for engine life to warm your power plant up before taking off. This'll get rid of any dilution and will get your oil up to where it's lubricating your cylinders. This is especially true in winter.

Half-Mast

Dear Half-Mast,

As a tank company here in Germany, my outfit's kept busy—almost constantly on maneuver or alert.

We find that the rubber track on our M47 tanks doesn't give much traction on ice or snow—especially on a steep grade. This has hampered our winter operations a lot.

Of course, steel tracks would be an improvement for ice and snow. But steel's not so good for wet cobblestone roads during rainy summer months. Tends to slide more than rubber.

So we're wondering if there's anything available that'll give our M47's added traction. Something on the order of grousers, maybe, or the "duck feet" or "web feet" used on some of the older tanks.

How about it?

1st Sgt J. M. M.

Dear Sgt J. M. M.,

No doubt about it—you've put your finger on what can be something of a problem in some areas.

Use of steel track, grousers, etc., is being generally restricted—overseas as well as in the ZI. (Seems that chopping up their cobblestones is not considered the best way to win friends and influence allies.)

So the switch to rubber—with medium tanks suffering some loss of traction on snow and ice. But since rubber

has been found to be best for all-round operation, steel track will no longer be carried in supply. (What is presently on hand will likely be kept around for possible emergency use.)

Light tanks, o'course, have a handy set-up—steel track with detachable rubber pads. Goes easy on the pavement and makes for good traction, too.

But as of now there's nothing like that available for the M47—nor any of the other medium tanks.

Half-Mast

INSPECTION STANDARDS

Dear Half-Mast,

I'm senior instructor for a wheeled vehicle mechanic's course. We're authorized a number of vehicles for instructional purposes, and students perform as many as three preventive maintenance services on these vehicles each week. We don't have any personnel assigned to recheck these vehicles and maintain spot-check inspection standards.

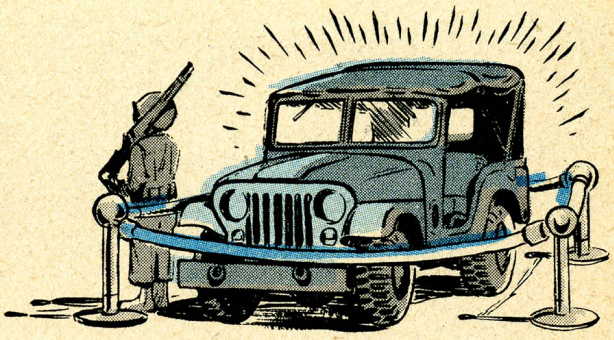
From time to time we've had inspections pulled on us and have been gigged because these vehicles haven't been up to snuff. The inspectors used the same standards on these training aids vehicles as they would on any other tactical or administrative vehicle. Yet, how can we keep these vehicles up to those standards with so many people working over them each week and no assigned personnel to maintain them?

What I want to know is if there's anything that'll exempt my training aids vehicles from these spot-check inspections.

Capt C. B. H.

Dear Capt C. B. H.,

You use the phrase "training aids vehicle." The AR's that set up the requirements for spot-check inspections—AR 750-525 for Engineer equipment and AR 750-925 for Ordnance equipment—don't set up any minimum standards for equipment used as training aids. From the standpoint of maintenance, there's no such thing as "training aids vehicles."

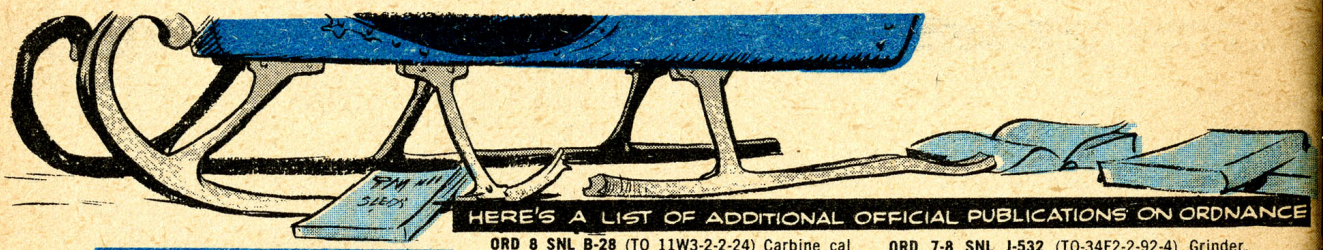


Any piece of equipment that's used for instructional purposes is probably abused more than the same type equipment used normally. Some inspectors work out a set of standards for inspecting this equipment with the local commander. These standards are set flexible enough to allow for any deficiency to the equipment that happened during the instruction period. For instance, if they found a burned-out generator or bad brakes that happened during the course of a day's instruction, or any purposely-set defect, they would overlook it because they understand it's part of the course.

But they would not overlook a deficiency like an underfilled crankcase, worn-out tires or no water in the batteries. They'd gig you for that because there's no reason for these kinds of quirks, especially with so many people working on the vehicles each week.

A local SOP covering the subject can help clear up a lot of such problems. SR 750-105-10, paragraph 12, which sets up the differences between a major and minor deficiency can be a great help in setting one up.

Half-Mast



HERE'S A LIST OF ADDITIONAL OFFICIAL PUBLICATIONS ON ORDNANCE

SUPPLY MANUALS

Ord 9 SNL A-73 Sec 1 (TO 11W2-5-11-24) Gun, Auto 20-mm, M24A1 Jul 55

Ord 8 SNL A-85 Mortar, 4.2-in, M30; mt, mortar, 4.2-in, M24, M24A1 Jun 55

Ord 9 SNL A-85 Mortar, 4.2-in, M30; mt, mortar, 4.2-in, M24, M24A1 Jun 55

Ord 7 SNL A-91 Gun, Auto, 20-mm, M39, M39A1 Apr 55

Ord 8 SNL A-92 Cradle, pintle, ammo box tray MG cal..30, cal..50 (6910014) Aug 55

Ord 7-8 SNL B-8 Bayonet, M1; bayonet knife, M4, M5; scabbard bayonet, M7; scabbard, bayonet-knife, M8A1 Jun 55

Ord 9 SNL B-48 Rifle, spotting, cal..50, M8 (T46E2) Aug 55

Ord 8 SNL F-354 Mount, sight, M86 Aug 55

Ord 8 SNL F-360 Quad, elev, M13 Jul 55

Ord 7 SNL G-258 How, 105-mm, SP, T98E1 Jun 55

Ord 9 SNL G-797 Semitrlr, low bed, 25-t, 4-whl, M172 Jun 55

Ord 5 SNL H-4 Group H—Standard elect comp Jun 55

Ord 7-8 SNL J-128 Drill, elec port, 115-v, univ curr, hv-duty, 1/2-in cap (Albertson, mod 1550) (40-D-345), Drill, elec port, 115-v, univ curr, hv-duty, w/vert stand, 1/2-in cap (Albertson, mod 1550) (40-D-355) and Drill, elec port, 115-v, univ curr, hv-duty, w/hor stand, 1/2-in cap (Albertson, mod 1550) (5130-473-6227) Jun 55

Ord 7-8 SNL J-153 (TO 32B2-2-38-4) Drill, elec: 3/8-in cap, AC, DC, 115-v, hv-dy (Albertson mod 1541) (5130-473-6223) Jul 55

Ord 7-8 SNL J-162 (TO 34Y2-1-134) Cleaner, tester, spark plug; Compr air, abrasive type, 110-v, 60-c, sgle-ph (Champion Spark Plug, Series 600) (40-C-1013), cleaner and tester, spark plug: 120 to 150-psi air press required, DC, 12-v (Champion Spark Plug, mod B-600 BB) (4910-261-5869) Jun 55

ORD 5-3-6 List of all items, pricing guide—Ammo Aug 55

ORD 7 SNL A-6 Cal .30 Gun machine, Browning M1919A4 flexible; and M1919A6; mt, tripod, mt machine gun cal .30 M2 Jun 55

ORD 7 SNL A-55 (TO 11 W2-S-2-24) Sec 16 Mount, truck, pedestal, M24A2, M24A3 Aug 55

ORD 7 SNL A-67 (TO 11W1-13-3-54) Cal .50 machine gun AN-M3, aircraft, basic Jul 55

ORD 9 SNL A-67 (TO 11W1-13-3-24) Cal .50 machine gun AN-M3, aircraft, basic Jul 55

ORD 8 SNL B-28 (TO 11W3-2-2-24) Carbine cal .30 M1, M1A1, M2 Aug 55

ORD 7 SNL C-20 Howitzer, pack 75-mm M1A1/crrg, howitzer (pack) 75-mm M8 Aug 55

ORD 8 SNL C-20 Howitzer pack 75-mm M1A1/crrg, howitzer (pack) 75-mm M8 Aug 55

ORD 8 SNL C-82 76-mm gun (T91E3); mt, combo gun, M76 (T138E1); mt, combo gun, M76A1 (T138E2) Aug 55

ORD 8 SNL D-53 120-mm gun T123E1; mt, combo gun T154 Jul 55

ORD 8 SNL F-204 Quadrant, elev, M1, M1A1 Aug 55

ORD 8 SNL F-372 Mt, 'scope, T179, T179E2, T179E4, T179E5 Aug 55

ORD 9 SNL G-249 Vol 1 Winteriz equip-heaters, pers for winteriz kits Jul 55

ORD 9 SNL G-249 Vol 2 Winteriz equip-heaters, engine, for winteriz kits Jul 55

ORD 9 SNL G-249 Vol 30 Winteriz kit for mt, multi cal .50 machine gun, M45C, M45D, M45F (SNL A061) Jul 55

ORD 7 SNL G-260 Carriers, pers, armored M75 Jun 55

ORD 8 SNL G-260 Carrier, pers, armored, M75 Jun 55

ORD 7 SNL G-749 Trucks M135, M211, M215, M220, M217, M222, M221 Jul 55

ORD 5 SNL H-11 Nonferrous metals Sep 55

ORD 3 SNL J-1 Machine tools Jul 55

ORD 6 SNL J-33 Tool set, fld, svc, spec, ord ballistic and tech team and cannon bore inspec equip Aug 55

ORD 7-8 SNL J-161 (TO 34Y2-1-124) Cleaner, tester, spark plug: 120 to 150-psi air press req dc, 12-v (Globe-Union mod 12-v) (4910-261-5869); cleaner, tester, spark plug: Compressed air, abras type, 110-v, 60-c, sgle-ph (Globe-Union mod 110-v) (40-C-1013) Aug 55

ORD 7-8 SNL J-170 (TO 32B2-2-19-4) Drill, elec 115-v, univ curr, h-d 3/4-in. cap (Milwaukee Elec Tool mod E-535) (5130-473-6226), Drill, elec: 115-v, univ curr h-d, 3/4-in. cap w/vert stand (Milwaukee Elec Tool mod E-535) (5130-473-6228) Aug 55

ORD 7-8 SNL J-217 (TO 34F2-2-80-4) Grinding mach, machine tool attach: 1/2-hp, ac-dc, 115-v (McGonegal mods J-4, J-4S) (40-G-165-60) Aug 55

ORD 7-8 SNL J-416 (TO 34C2-2-10-2) Machine, connecting rod boring, grinding, 220-v, 60-c, 3-ph (Van Norman, mod 222 FE) (40-M-3-500) Aug 55

ORD 7-8 SNL J-516 (TO-32B6-2-8-4) Hammer, pneu, body and fender straightening (Watervliet Tool mod V-1) (40-H-266) Aug 55

ORD 7-8 SNL J-532 (TO-34F2-2-92-4) Grinder, pneu, port, straight hdl 1-1/2 x 1/2-in whl (vitrif) and 2 x 1/2-in whl (organic) (Master Pneu Tool mod M-602) (40-G-169-370) Jul 55

ORD 7-8 SNL J-721 Drill, elec: 1/4-in. cap, ac-dc, 110-v, 90-degree angle (Mall Tool mod 141-F) (5130-449-6769) Aug 55

ORD 7-8 SNL J-725 Drill, elec, port, 1/4-in. cap, ac-dc, 115-v, hv-duty (Mall Tool mod 145TP) (40-D-341) Aug 55

ORD 7-8 SNL J-727 (TO 32B2-2-1-134) Drill, elec, port, 1/2-in. cap, 115-v, ac-dc, h-d (Mall Tool mod 125) (40-D-345) Aug 55

ORD 7-8 SNL J-760 Drill, elec, 3/8-in. cap, ac-dc, 115-v, h-d (Mall Tool mod 384) (5130-473-6223) Aug 55

ORD 7-8 SNL J-771 Grind mach, util: Bench, 1-hp, 110-v, 60-c, sgle-ph, whl size 10 x 1-in. (Thor Power Tool mod B-10) (40-C-114-5) Aug 55

ORD 3 SNL S-8 Ammo-guided missiles Aug 55

ORD 7 SNL Y-32 Target, aerial, Types OQ-19B, OQ-19D Jun 55

SM 9-1-3540 Stock list of end items, alphabetical list—FSC Group 35—Service and trade equipment—Class 3540—Wrapping and packaging machinery Sept 55

SM 9-1-4100 Stock list, end items, alphabetical list: FSC Group 41—Refrig air condi equip, Class 4110—Self-contain refrig units, and accys; Class 4120—Self-contain air condit units, and accys; Class 4130—Refrig air condit plants, components; Class 4140—Fans, air circulators, nonindus Sep 55

SM 9-1-7330 Stock List, end items, alphabetical list: FSC Group 73—Food prep serv equip Class 7330-Kitch hand tools, utens Sep 55

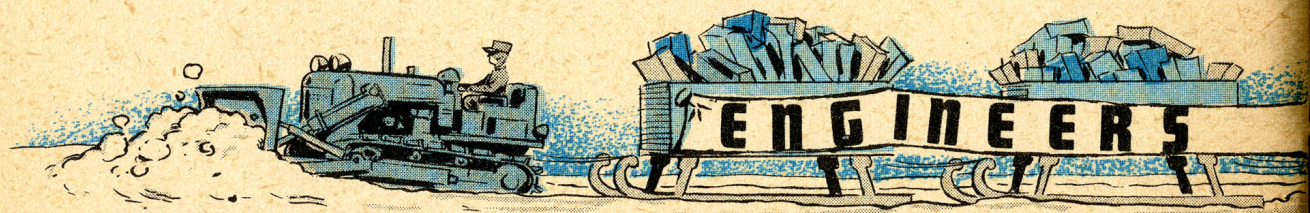
SM 9-1-7920, 30 Stock list, end items, alphabetical list: FSC Group 79—Cleaning equip supplies; Class 7920—Brms, brshes, mops, sponges; Class 7930—Clean polish compds, preparations Sep 55

SM 9-2-3540 Stock list, all items, price list: FSC Group 35—Service trade equip wrap, packag mach Aug 55

SM 9-2-4100 Stock list, all items, price list: FSC Group 41—Refrig, air condit equip Class 4110—Self-contain refrig units; accys; Class 4120—Self-contain air condit units, accys Class 4130—Refrig air condit plants, components; Class 4140—Fans, air circul nonindustrial Sep 55

SM 9-2-5350 Stock list, all items, price list: FSC Group 53—Hardware, abrasive materials Sep 55

SM 9-2-6810, 6830, 6840, 6850 Stock list all items, price list: FSC Group 68—Checs, chem products—Class 6830—Gasses; Compress liq;



HERE ARE SOME MORE ENGINEER PUBS

TM's

5-236-1 American ephemeris and almanac-1957

5-5385 Generator set, elec, port, dsl-drvn, skid-mtd, Consolidated Diesel mod 1780, 23 Jun 55

5-5040 Generator, acetylene, gas, port, Sight Feed mods M-12-SP and M-12-PS, 9 Aug 55

TB's

5-9715-1 Preservation of Engr mech equip for storage, 19 Jul 55

5-5262-1 Generator set, elec, port, dsl-drvn, skid-mtd, Sheppard mod 16E

5-9179-1 Ditcher, plow type, East Texas Engrg mod 56-S, 14 Jul 55

5-5182-1 Engine, gasoline, LeRoi mod H 2000

5-5314-1 PMS generator set, elec, port, dsl-drvn, skid-mtd, Cummins mod NHRSGA-601-100

LO's

5-5081 Generator set, port, gas-drvn, skid-mtd, 5-kw, Kohler mod 5MH81, 7 Jul 55

5-5099 Compressor, air, trlr-mtd, dsl-drvn, Joy mod WK-80-315, 12 Jul 55

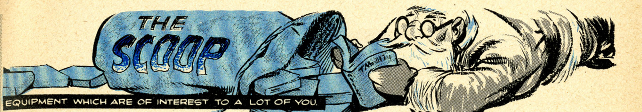
5-5115 Compressor, air, trlr-mtd, dsl-drvn, LeRoi mod 500D2-C, 12 Jul 55

5-5314 Generator set, elec, port, dsl-drvn, skid-mtd, Cummins mod NHRSGA-601-100, 13 Jul 55

5-5327 Generator set, port, dsl-drvn, skid-mtd, 50-kw, Bolinders mod 760, 7 Jul 55

5-9095 Ice plant, 1-ton, gas-driven, Reco mod G 2000-S50D, 16 Jun 55

5-9290 Winch, towing reversible, one drum, 8600 to 12000 drawbar pull tractor, front mtd, for Intnl mod TD-9, Trctr, Gar Wood mod T4-B,



THE SCOOP

HERE'S A LIST OF ADDITIONAL OFFICIAL PUBLICATIONS ON ORDNANCE EQUIPMENT WHICH ARE OF INTEREST TO A LOT OF YOU.

SUPPLY MANUALS

Ord 9 SNL A-73 Sec 1 (TO 11W2-5-11-24) Gun, Auto 20-mm, M24A1 Jul 55

Ord 8 SNL A-85 Mortar, 4.2-in, M30; mt, mortar, 4.2-in, M24, M24A1 Jun 55

Ord 9 SNL A-85 Mortar, 4.2-in, M30; mt, mortar, 4.2-in, M24, M24A1 Jun 55

Ord 7 SNL A-91 Gun, Auto, 20-mm, M39, M39A1 Apr 55

Ord 8 SNL A-92 Cradle, pintle, ammo box tray MG cal..30, cal..50 (6910014) Aug 55

Ord 7-8 SNL B-8 Bayonet, M1; bayonet knife, M4, M5; scabbard bayonet, M7; scabbard, bayonet-knife, M8A1 Jun 55

Ord 9 SNL B-48 Rifle, spotting, cal..50, M8 (T46E2) Aug 55

Ord 8 SNL F-354 Mount, sight, M86 Aug 55

Ord 8 SNL F-360 Quad, elev, M13 Jul 55

Ord 7 SNL G-258 How, 105-mm, SP, T98E1 Jun 55

Ord 9 SNL G-797 Semitrlr, low bed, 25-t, 4-whl, M172 Jun 55

Ord 5 SNL H-4 Group H—Standard elect comp Jun 55

Ord 7-8 SNL J-128 Drill, elec port, 115-v, univ curr, hv-duty, 1/2-in cap (Albertson, mod 1550) (40-D-345), Drill, elec port, 115-v, univ curr, hv-duty, w/vert stand, 1/2-in cap (Albertson, mod 1550) (40-D-355) and Drill, elec port, 115-v, univ curr, hv-duty, w/hor stand, 1/2-in cap (Albertson, mod 1550) (5130-473-6227) Jun 55

Ord 7-8 SNL J-153 (TO 32B2-2-38-4) Drill, elec: 3/8-in cap, AC, DC, 115-v, hv-dy (Albertson mod 1541) (5130-473-6223) Jul 55

Ord 7-8 SNL J-162 (TO 34Y2-1-134) Cleaner, tester, spark plug; Compr air, abrasive type, 110-v, 60-c, sgle-ph (Champion Spark Plug, Series 600) (40-C-1013), cleaner and tester, spark plug: 120 to 150-psi air press required, DC, 12-v (Champion Spark Plug, mod B-600 BB) (4910-261-5869) Jun 55

ORD 5-3-6 List of all items, pricing guide—Ammo Aug 55

ORD 7 SNL A-6 Cal .30 Gun machine, Browning M1919A4 flexible; and M1919A6; mt, tripod, mt machine gun cal .30 M2 Jun 55

ORD 7 SNL A-55 (TO 11 W2-S-2-24) Sec 16 Mount, truck, pedestal, M24A2, M24A3 Aug 55

ORD 7 SNL A-67 (TO 11W1-13-3-54) Cal .50 machine gun AN-M3, aircraft, basic Jul 55

ORD 9 SNL A-67 (TO 11W1-13-3-24) Cal .50 machine gun AN-M3, aircraft, basic Jul 55

ORD 8 SNL B-28 (TO 11W3-2-2-24) Carbine cal .30 M1, M1A1, M2 Aug 55

ORD 7 SNL C-20 Howitzer, pack 75-mm M1A1/crrg, howitzer (pack) 75-mm M8 Aug 55

ORD 8 SNL C-20 Howitzer pack 75-mm M1A1/crrg, howitzer (pack) 75-mm M8 Aug 55

ORD 8 SNL C-82 76-mm gun (T91E3); mt, combo gun, M76 (T138E1); mt, combo gun, M76A1 (T138E2) Aug 55

ORD 8 SNL D-53 120-mm gun T123E1; mt, combo gun T154 Jul 55

ORD 8 SNL F-204 Quadrant, elev, M1, M1A1 Aug 55

ORD 8 SNL F-372 Mt, 'scope, T179, T179E2, T179E4, T179E5 Aug 55

ORD 9 SNL G-249 Vol 1 Winteriz equip-heaters, pers for winteriz kits Jul 55

ORD 9 SNL G-249 Vol 2 Winteriz equip-heaters, engine, for winteriz kits Jul 55

ORD 9 SNL G-249 Vol 30 Winteriz kit for mt, multi cal .50 machine gun, M45C, M45D, M45F (SNL A061) Jul 55

ORD 7 SNL G-260 Carriers, pers, armored M75 Jun 55

ORD 8 SNL G-260 Carrier, pers, armored, M75 Jun 55

ORD 7 SNL G-749 Trucks M135, M211, M215, M220, M217, M222, M221 Jul 55

ORD 5 SNL H-11 Nonferrous metals Sep 55

ORD 3 SNL J-1 Machine tools Jul 55

ORD 6 SNL J-33 Tool set, fld, svc, spec, ord ballistic and tech team and cannon bore inspec equip Aug 55

ORD 7-8 SNL J-161 (TO 34Y2-1-124) Cleaner, tester, spark plug: 120 to 150-psi air press req dc, 12-v (Globe-Union mod 12-v) (4910-261-5869); cleaner, tester, spark plug: Compressed air, abras type, 110-v, 60-c, sgle-ph (Globe-Union mod 110-v) (40-C-1013) Aug 55

ORD 7-8 SNL J-170 (TO 32B2-2-19-4) Drill, elec 115-v, univ curr, h-d 3/4-in. cap (Milwaukee Elec Tool mod E-535) (5130-473-6226), Drill, elec: 115-v, univ curr h-d, 3/4-in. cap w/vert stand (Milwaukee Elec Tool mod E-535) (5130-473-6228) Aug 55

ORD 7-8 SNL J-217 (TO 34F2-2-80-4) Grinding mach, machine tool attach: 1/2-hp, ac-dc, 115-v (McGonegal mods J-4, J-4S) (40-G-165-60) Aug 55

ORD 7-8 SNL J-416 (TO 34C2-2-10-2) Machine, connecting rod boring, grinding, 220-v, 60-c, 3-ph (Van Norman, mod 222 FE) (40-M-3-500) Aug 55

ORD 7-8 SNL J-516 (TO-32B6-2-8-4) Hammer, pneu, body and fender straightening (Watervliet Tool mod V-1) (40-H-266) Aug 55

ORD 7-8 SNL J-532 (TO-34F2-2-92-4) Grinder, pneu, port, straight hdl 1-1/2 x 1/2-in whl (vitrif) and 2 x 1/2-in whl (organic) (Master Pneu Tool mod M-602) (40-G-169-370) Jul 55

ORD 7-8 SNL J-721 Drill, elec: 1/4-in. cap, ac-dc, 110-v, 90-degree angle (Mall Tool mod 141-F) (5130-449-6769) Aug 55

ORD 7-8 SNL J-725 Drill, elec, port, 1/4-in. cap, ac-dc, 115-v, hv-duty (Mall Tool mod 145TP) (40-D-341) Aug 55

ORD 7-8 SNL J-727 (TO 32B2-2-1-134) Drill, elec, port, 1/2-in. cap, 115-v, ac-dc, h-d (Mall Tool mod 125) (40-D-345) Aug 55

ORD 7-8 SNL J-760 Drill, elec, 3/8-in. cap, ac-dc, 115-v, h-d (Mall Tool mod 384) (5130-473-6223) Aug 55

ORD 7-8 SNL J-771 Grind mach, util: Bench, 1-hp, 110-v, 60-c, sgle-ph, whl size 10 x 1-in. (Thor Power Tool mod B-10) (40-C-114-5) Aug 55

ORD 3 SNL S-8 Ammo-guided missiles Aug 55

ORD 7 SNL Y-32 Target, aerial, Types OQ-19B, OQ-19D Jun 55

SM 9-1-3540 Stock list of end items, alphabetical list—FSC Group 35—Service and trade equipment—Class 3540—Wrapping and packaging machinery Sept 55

SM 9-1-4100 Stock list, end items, alphabetical list: FSC Group 41—Refrig air condi equip, Class 4110—Self-contain refrig units, and accys; Class 4120—Self-contain air condit units, and accys; Class 4130—Refrig air condit plants, components; Class 4140—Fans, air circulators, nonindus Sep 55

SM 9-1-7330 Stock List, end items, alphabetical list: FSC Group 73—Food prep serv equip Class 7330-Kitch hand tools, utens Sep 55

SM 9-1-7920, 30 Stock list, end items, alphabetical list: FSC Group 79—Cleaning equip supplies; Class 7920—Brms, brshes, mops, sponges; Class 7930—Clean polish compds, preparations Sep 55

SM 9-2-3540 Stock list, all items, price list: FSC Group 35—Service trade equip wrap, packag mach Aug 55

SM 9-2-4100 Stock list, all items, price list: FSC Group 41—Refrig, air condit equip Class 4110—Self-contain refrig units; accys; Class 4120—Self-contain air condit units, accys Class 4130—Refrig air condit plants, components; Class 4140—Fans, air circul nonindustrial Sep 55

SM 9-2-5350 Stock list, all items, price list: FSC Group 53—Hardware, abrasive materials Sep 55

SM 9-2-6810, 6830, 6840, 6850 Stock list all items, price list: FSC Group 68—Checs, chem products—Class 6830—Gasses; Compress liq; Class 6840—Pest control agents, disinfect; Class 6850—Miscel chem spec Sep 55

SM 9-2-6910, 20 Stock list all items, price list: FSC Group 69—Trng aids; Class 6920—Armament trnng devices Sep 55

SM 9-2-7330 Stock list, all items, price list: FSC Group 73—Food prep serv equip Class 7330—Kitch hand tools, utens Sep 55

SM 9-2-7920, 7930 Stock list, all items, price list: FSC Group 79—Clean equip, supplies; Class 7930—Clean polish cmpds, preparations Sep 55

SM 9-2-8010, 8030, 8040 Stock list, all items, price list: FSC Group 80—Brushes, paints, sealers; adhesives—Class 8030—Preser sealing cmpds; Class 8040—Adhesives Sep 55

SM 9-2-9905 Stk list, all items, price list; FSC gp 99-Misc; Class 9905—Signs adv displays Sep 55

SM 9-5-6910, 20 Stk list, current issue items: FSC Group 69—Tng aids, devices; Class 6910—Trng aids; Class 6920—Arm tng devices Sep 55

TECHNICAL MANUALS

9-5058 5-ton 6x6 Trk-mtd svc pltfrm XM280E1, Aug 55

9-6045 Rng Finder T42E1, Jul 55

9-7421 Skysweeper trctr bdy kit, cargo pltfrm, cab hyd pump hyd sys main press reg, rlf vlv assy, hydc sys oil fltr press rlf vlve ass hyd mtr, brk contrl fnl drv brk boxes, PTO for cargo trctr M8E2, Jun 55

9-8028 (TO 36A12-1C-301) 5-ton 6x6 cargo trk M41, M45; chass M40, M61, M139, M139C; dump M51; Trctr M52; med wrkr M62; trtr wrkr M246, Jun 55

9-8236 3-1/2-ton 2 whl cbl reel trl M310, Aug 55

9-9004-1 275-gal-per-hour max liq-disch-rate elect-mtr-drv whl-mntd press jet stm clnr (Clayton Mdl HR-ORD) (4940-268-9789) (clnr-40-C-1008-10), Aug 55

ORDNANCE MWO's

G1-W69 2-1/2-t chassis M44, M45, M46; 5-t chassis M39, M40, M61, M63, M139, M139C; 2-1/2-t trks M34, M35, M36, M47, M50, M59, M60, M108, M109, M110, V17A/MTQ, V18A/MTQ; 5-t trks M41, M51, M54, M55, M62, M64; 2-1/2-t trk-tract M48, M275; 5-t trk-tractors M52, M246; Modify cab door glass regulator channel stop brkt, F Jul 55

G160-W5 12-t tract-trk M26, M26A1: Eliminate leakage between aux transm and transfer case, O Aug 55

G251-W9 Tank M41: Sealing opening around slip ring box, F Jun 55

G251-W10 Tanks M41 (T41E1), M41A1 (T41E2): Modify mount for peris M19, F Aug 55

G268-W12 4x4 heavy gun-lift front trk M249 and rear trk M250: Modify trailer-lifting and locking shackle, D Jun 55

G744-W24 5-ton M41, M54, M51, M62; chassis M40, M61, M139, M139C; trk-tract M52, M246: Provide positive winch-drum-clutch-lever-lock, F Jul 55

G764-W1 1/2 t 4x2 pickup trks (Chev. GP 3104, HP 3104, JP 3104, KP 3104; Ford IRC83; F-1; Dodge WC-1947, B-1-B108; GMC 101-22): Provide drainage for cargo body, O Jun 55

G768-W3 2-1/2-t 4x2 dump trk (GMC mod HC-451): Bolt dump body sub-frame, chassis frame together, F Jun 55

G770-W3 5-t 4x2 dump trk (IHC): Relocate reflector mting brkt, F Jun 55

C77-W3 105-mm rfl M27: Ream barrel to permit use cart T19E1 (Fld fin type), chang mdl desig M27 to M27A1, D Aug 55

G1-W67 12-ton, 4-whl semitrlr M127, M131: Replc snap rings w/washers welded to shaft, slv, F Aug 55

G1 W70 2-1/2-ton 6x6 trk M135, M211, M215, M217, M220, M222; trctr M221; full-trk arm pers carrier M59: Instal data plate on hyd transmsn, D Aug 55

G244-W38 M M46, M46A1 tanks: Instal aux eng hnd chk, thrtl cntrl, F Sep 55

G254-W12 M48 tank: Instal new trnsmsn shft cntrl vlv, F Aug 55

G254-W13 M48 tank: Drl drn holes hull telephone box, F Aug 55

G262-W22 M47 tank: Prvd addtl door stp for cmdr cupola door, F Apr 55

G268-W14 4x4 hvy gun-lift frnt trk M249: Provid access to nuts on eng rear mntg bolts, O Aug 55

G744-W25 5-ton 6x6 trk chass M139: Reduce axle gear ration when used w/chassis-mntd 762-mm rkt lnchr XM289, F Sep 55

G749-W13 2-1/2-ton 6x6 cgo trk M135: Instal elec circ for rit blkout tail, clear lts of towed veh, F Sep 55

G749-W20 2-1/2-ton 6x6 trks M135, M211, M215, M217, M220, M221, M222: Maching trnsmsn rear cltch hub, instal new rear cltch hub washer D, Apr 55

G768-W4 2-1/2-ton 4x2 1,200 gal gas tank trk (GMC Model HC 453): Instal gas segregator kit, F Sep 55

Y17-W1 Guided Missile acid srvcr XM2; fuel srvcr XM3; Correct defici insur optimum prfmc, O Aug 55

TECHNICAL BULLETINS

TB 9-1786A-1 13-ton high-speed trtr M5A4: Clth, prpelr sfts, F Aug 55

TB 9-7002-1 Armd full-trkd persnl carrier M59: Deenergiz infrared peris pwr pk O Aug 55

TB ORD 576 AOS-895-3, AO-895-4, AV-1790 series Cont engines: Close fuel-tank-shutoff valve, O Aug 55

TB ORD 597-19 (TO 34C2-8-1-2) Metal cut band saw file mach (Cont Mach Inc mod DoAll ML) (40-S-570): Rebld stds, D Aug 55

TB ORD 597-20 (TO 34W4-1-173) Arc weld mach (Westse Elec Mod EW 30, Hobart Bros Mod GR-300-S, GR-3153-S) (3375-255-9991): Rebld stds, D Jul 55

TB ORD 597-21 Cam, main bear bore mach (Cedar Rapids Engin Co. mod L-200) (4910-263-7918): Rebld stds, D Jul 55

TB ORD 597-22 Armat, undercutter lathe (4910-263-3077): Rebld stds, D Jul 55

TB ORD 597-24 Plain horiz mill mach (all makes, mods) (40-M-31): Rbld stds, D Jul 55

TB ORD 597-25 Non-inflam solv type port tank degreaser (Topper Equip Co, Circo Prod Co mod 20MM) (4940-244-8595): Rebld stds, D Aug 55

LUBE ORDERS

LO 9-7212 SP Gun, 155-mm, T97, Mar 55

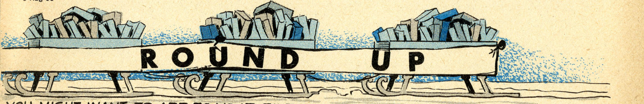
LO 9-8202 Dolly, 6, 8-ton trlr convert (mods M197, M198), Jul 55

LO 9-8236 Trailer, cable reel, 3-1/2-t, 2-whl, mod 310, Jul 55

SUPPLY BULLETINS

SB 9-81 Insp, rep, repackag autom hyd brk cyl assys, F Aug 55

NOTE—ON TB's, MWO's and SB's
O—Organizational Maintenance
F—Field Maintenance
D—Depot Maintenance



ENGINEERS ROUND UP

HERE ARE SOME MORE ENGINEER PUBS YOU MIGHT WANT TO ADD TO YOUR PILE

TM's

5-236-1 American ephemeris and almanac-1957

5-5385 Generator set, elec, port, dsl-drvn, skid-mtd, Consolidated Diesel mod 1780, 23 Jun 55

5-5040 Generator, acetylene, gas, port, Sight Feed mods M-12-SP and M-12-PS, 9 Aug 55

TB's

5-9715-1 Preservation of Engr mech equip for storage, 19 Jul 55

5-5262-1 Generator set, elec, port, dsl-drvn, skid-mtd, Sheppard mod 16E

5-9179-1 Ditcher, plow type, East Texas Engrg mod 56-S, 14 Jul 55

5-5182-1 Engine, gasoline, LeRoi mod H 2000

5-5314-1 PMS generator set, elec, port, dsl-drvn, skid-mtd, Cummins mod NHRSGA-601-100

LO's

5-5081 Generator set, port, gas-drvn, skid-mtd, 5-kw, Kohler mod 5MH81, 7 Jul 55

5-5099 Compressor, air, trlr-mtd, dsl-drvn, Joy mod WK-80-315, 12 Jul 55

5-5115 Compressor, air, trlr-mtd, dsl-drvn, LeRoi mod 500D2-C, 12 Jul 55

5-5314 Generator set, elec, port, dsl-drvn, skid-mtd, Cummins mod NHRSGA-601-100, 13 Jul 55

5-5327 Generator set, port, dsl-drvn, skid-mtd, 50-kw, Bolinders mod 760, 7 Jul 55

5-9095 Ice plant, 1-ton, gas-driven, Reco mod G 2000-S50D, 16 Jun 55

5-9290 Winch, towing reversible, one drum, 8600 to 12000 drawbar pull tractor, front mtd, for Intnl mod TD-9, Trctr, Gar Wood mod T4-B, rear mtd, for Intnl mod TD-18 Trctr, Gar Wood mod T-5-RBU, 12 Jul 55

5-9585 Conveyor, crwlr-mtd, gas-drvn, 75-ton ph capacity, Barber-Greene mod 689, 24 Jun 55

5-5077 Generator set, elec, port, gas-drvn, skid-mtd, 1-1/2-kw, Homelite mod 24A 120-23A, 16 Jun 55

ENG MWO's

1043-1 Grader, rd, mtrzd, dsl-drvn, Rome mod 402, 17 Aug 55

9512 Crane-Shvl, PU, rev, Marion mod 372, 12 Jul 55

ENG 7, 8 & 9's

9530 Crane-Shvel, PU, rev, trk-mtd, Schield Bantam mod RBM-53, 8 Jul 55

1052 Stabilizer, soil, dsl-drvn, crwlr type, Harnischfeger mod LA-88, 11 Jul 55

9258-1 Truck, refuse, Sicard Industries Inc mod Sanivan SM-4, 23 Aug 55

5061-1 Compressor, air, trk-mtd, gas-drvn, LeRoi mod 210-G2 (105-GA), 15 Jul 55

ENG 7 & 8's

4059 Tamper, backfill, pneu, LeRoi mod 11, 1 Aug 55

5047 Generator, acetylene gas, port, Marquette mod 612, 1 Aug 55

Class 6840—Pest control agents, disinfect; Class 6850—Miscel chem spec Sep 55

SM 9-2-6910, 20 Stock list all items, price list: FSC Group 69—Trng aids; Class 6920—Armament trnng devices Sep 55

SM 9-2-7330 Stock list, all items, price list: FSC Group 73—Food prep serv equip Class 7330—Kitch hand tools, utens Sep 55

SM 9-2-7920, 7930 Stock list, all items, price list: FSC Group 79—Clean equip, supplies; Class 7930—Clean polish cmpds, preparations Sep 55

SM 9-2-8010, 8030, 8040 Stock list, all items, price list: FSC Group 80—Brushes, paints, sealers; adhesives—Class 8030—Preser sealing cmpds; Class 8040—Adhesives Sep 55

SM 9-2-9905 Stk list, all items, price list; FSC gp 99-Misc; Class 9905—Signs adv displays Sep 55

SM 9-5-6910, 20 Stk list, current issue items: FSC Group 69—Tng aids, devices; Class 6910—Trng aids; Class 6920—Arm tng devices Sep 55

TECHNICAL MANUALS

9-5058 5-ton 6x6 Trk-mtd svc pltfrm XM280E1, Aug 55

9-6045 Rng Finder T42E1, Jul 55

9-7421 Skysweeper trctr bdy kit, cargo pltfrm, cab hyd pump hyd sys main press reg, rlf vlv assy, hydc sys oil fltr press rlf vlve ass hyd mtr, brk contrl fnl drv brk boxes, PTO for cargo trctr M8E2, Jun 55

9-8028 (TO 36A12-1C-301) 5-ton 6x6 cargo trk M41, M45; chass M40, M61, M139, M139C; dump M51; Trctr M52; med wrkr M62; trtr wrkr M246, Jun 55

9-8236 3-1/2-ton 2 whl cbl reel trl M310, Aug 55

9-9004-1 275-gal-per-hour max liq-disch-rate elect-mtr-drv whl-mntd press jet stm clnr (Clayton Mdl HR-ORD) (4940-268-9789) (clnr-40-C-1008-10), Aug 55

ORDNANCE MWO's

G1-W69 2-1/2-t chassis M44, M45, M46; 5-t chassis M39, M40, M61, M63, M139, M139C; 2-1/2-t trks M34, M35, M36, M47, M50, M59, M60, M108, M109, M110, V17A/MTQ, V18A/MTQ; 5-t trks M41, M51, M54, M55, M62, M64; 2-1/2-t trk-tract M48, M275; 5-t trk-tractors M52, M246; Modify cab door glass regulator channel stop brkt, F Jul 55

G160-W5 12-t tract-trk M26, M26A1: Eliminate leakage between aux transm and transfer case, O Aug 55

G251-W9 Tank M41: Sealing opening around slip ring box, F Jun 55

G251-W10 Tanks M41 (T41E1), M41A1 (T41E2): Modify mount for peris M19, F Aug 55

G268-W12 4x4 heavy gun-lift front trk M249 and rear trk M250: Modify trailer-lifting and locking shackle, D Jun 55

G744-W24 5-ton M41, M54, M51, M62; chassis M40, M61, M139, M139C; trk-tract M52, M246: Provide positive winch-drum-clutch-lever-lock, F Jul 55

G764-W1 1/2 t 4x2 pickup trks (Chev. GP 3104, HP 3104, JP 3104, KP 3104; Ford IRC83; F-1; Dodge WC-1947, B-1-B108; GMC 101-22): Provide drainage for cargo body, O Jun 55

G768-W3 2-1/2-t 4x2 dump trk (GMC mod HC-451): Bolt dump body sub-frame, chassis frame together, F Jun 55

G770-W3 5-t 4x2 dump trk (IHC): Relocate reflector mting brkt, F Jun 55

C77-W3 105-mm rfl M27: Ream barrel to permit use cart T19E1 (Fld fin type), chang mdl desig M27 to M27A1, D Aug 55

G1-W67 12-ton, 4-whl semitrlr M127, M131: Replc snap rings w/washers welded to shaft, slv, F Aug 55

G1 W70 2-1/2-ton 6x6 trk M135, M211, M215, M217, M220, M222; trctr M221; full-trk arm pers carrier M59: Instal data plate on hyd transmsn, D Aug 55

G244-W38 M M46, M46A1 tanks: Instal aux eng hnd chk, thrtl cntrl, F Sep 55

G254-W12 M48 tank: Instal new trnsmsn shft cntrl vlv, F Aug 55

G254-W13 M48 tank: Drl drn holes hull telephone box, F Aug 55

G262-W22 M47 tank: Prvd addtl door stp for cmdr cupola door, F Apr 55

G268-W14 4x4 hvy gun-lift frnt trk M249: Provid access to nuts on eng rear mntg bolts, O Aug 55

G744-W25 5-ton 6x6 trk chass M139: Reduce axle gear ration when used w/chassis-mntd 762-mm rkt lnchr XM289, F Sep 55

G749-W13 2-1/2-ton 6x6 cgo trk M135: Instal elec circ for rit blkout tail, clear lts of towed veh, F Sep 55

G749-W20 2-1/2-ton 6x6 trks M135, M211, M215, M217, M220, M221, M222: Maching trnsmsn rear cltch hub, instal new rear clutch hub washer D, Apr 55

G768-W4 2-1/2-ton 4x2 1,200 gal gas tank trk (GMC Model HC 453): Instal gas segregator kit, F Sep 55

Y17-W1 Guided Missile acid srvcr XM2; fuel srvcr XM3; Correct defici insur optimum prfmc, O Aug 55

TECHNICAL BULLETINS

TB 9-1786A-1 13-ton high-speed trtr M5A4: Clth, prpelr sfts, F Aug 55

TB 9-7002-1 Armd full-trkd persnl carrier M59: Deenergiz infrared peris pwr pk O Aug 55

TB ORD 576 AOS-895-3, AO-895-4, AV-1790 series Cont engines: Close fuel-tank-shutoff valve, O Aug 55

TB ORD 597-19 (TO 34C2-8-1-2) Metal cut band saw file mach (Cont Mach Inc mod DoAll ML) (40-S-570): Rebld stds, D Aug 55

TB ORD 597-20 (TO 34W4-1-173) Arc weld mach (Westse Elec Mod EW 30, Hobart Bros Mod GR-300-S, GR-3153-S) (3375-255-9991): Rebld stds, D Jul 55

TB ORD 597-21 Cam, main bear bore mach (Cedar Rapids Engin Co. mod L-200) (4910-263-7918): Rebld stds, D Jul 55

TB ORD 597-22 Armat, undercutter lathe (4910-263-3077): Rebld stds, D Jul 55

TB ORD 597-24 Plain horiz mill mach (all makes, mods) (40-M-31): Rbld stds, D Jul 55

TB ORD 597-25 Non-inflam solv type port tank degreaser (Topper Equip Co, Circo Prod Co mod 20MM) (4940-244-8595): Rebld stds, D Aug 55

LUBE ORDERS

LO 9-7212 SP Gun, 155-mm, T97, Mar 55

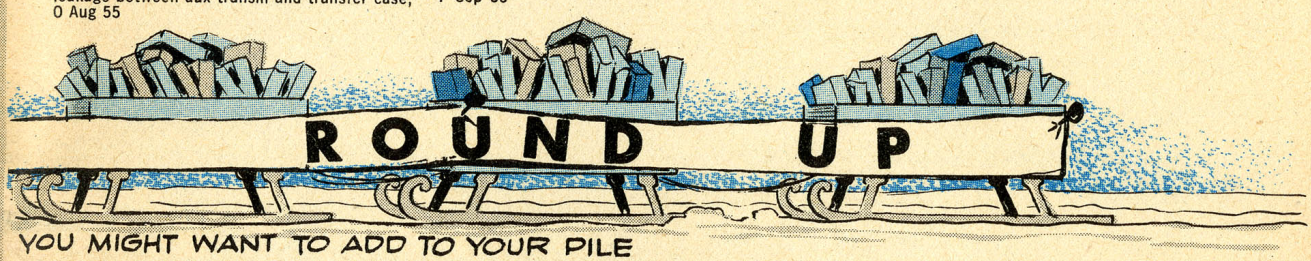
LO 9-8202 Dolly, 6, 8-ton trlr convert (mods M197, M198), Jul 55

LO 9-8236 Trailer, cable reel, 3-1/2-t, 2-whl, mod 310, Jul 55

SUPPLY BULLETINS

SB 9-81 Insp, rep, repackag autom hyd brk cyl assys, F Aug 55

NOTE—ON TB's, MWO's and SB's
O—Organizational Maintenance
F—Field Maintenance
D—Depot Maintenance



YOU MIGHT WANT TO ADD TO YOUR PILE

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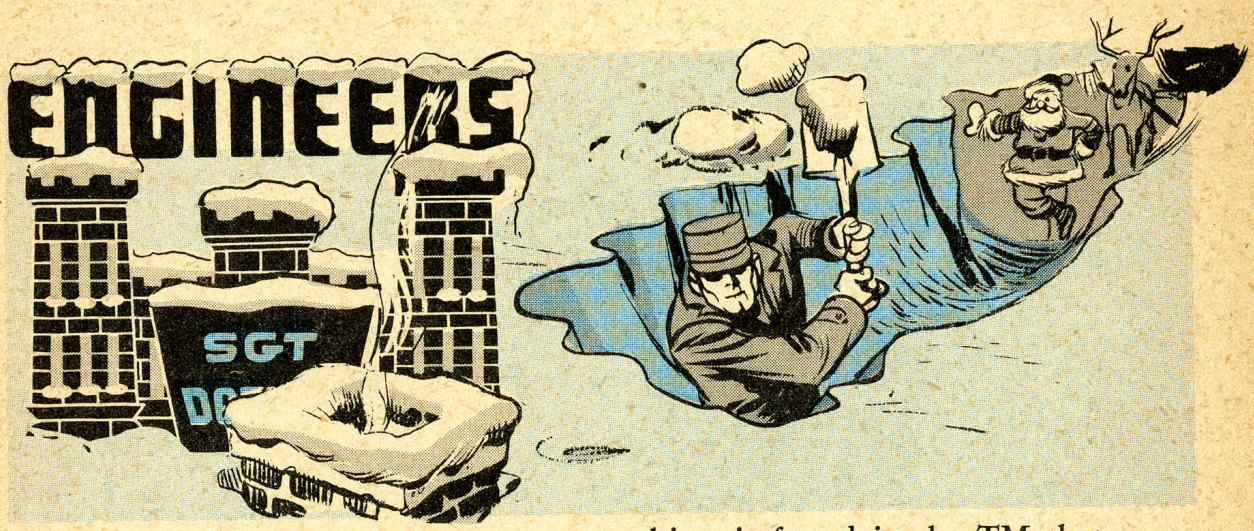


WHEN'S IT DIRTY?

Dear Sgt Dozer,

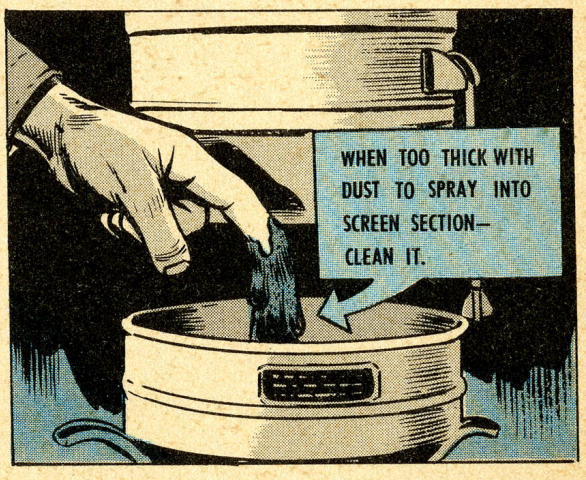
When's an air cleaner considered dirty? For as long as I can remember, perfectly good engine oil has been wasted to "clean" a "dirty" oil bath air cleaner. Even though the oil remains free from discoloration, does the collection of a small amount of grit in the sump make it dirty? This only means to me that the air cleaner is doing what it's supposed to do.

I've seen air cleaners operating under dusty conditions where the oil actually becomes discolored and a large deposit is collected in the sump. This is when I feel an air cleaner needs servicing. What I'm looking for is a "book" answer to this business of servicing air cleaners. Is there a regulation that can be quoted for all concerned?

Capt W. N. B.

Dear Captain W. N. B.,

As far as I know, there's no specific *regulation* that'll give you a "book" answer to your question—What is a dirty air cleaner? Your best info on this subject is found in the TM that goes with a particular piece of equipment. Maybe that's not exactly what you're after, but the TM does tell you when an air cleaner isn't doing its best job.



Using a Caterpillar D6 tractor as an example, I'll try and answer your question on when an air cleaner's dirty from past experience. The air cleaner on the D6 does a good job when the oil in the cup is thin enough to spray into the screen section and wash the dirt from there back into the cup. Once that oil gets thick with dust, it can't do its job and needs cleaning pronto. Remember not to let your oil be too thin—even in cold weather. If it is, it'll carry dirt with it over into the intake manifold.

So there you are, Captain. When the oil gets so thick with dust that it can't do its job properly, it's dirty and needs cleaning.

Of course, I'm not saying to let an air cleaner go past the service time set up by the lubrication order. The service intervals in the LO's were established after a lot of research and study.

And remember, the services in the LO's are mandatory, just like the info in the TB's.

Sgt Dozer

IN THE BAG

When you take over a piece of heavy Engineer equipment, make sure its lube guide holder is in order. If you don't, you're liable to find yourself minus the right answers to important maintenance and operation questions when you need 'em.

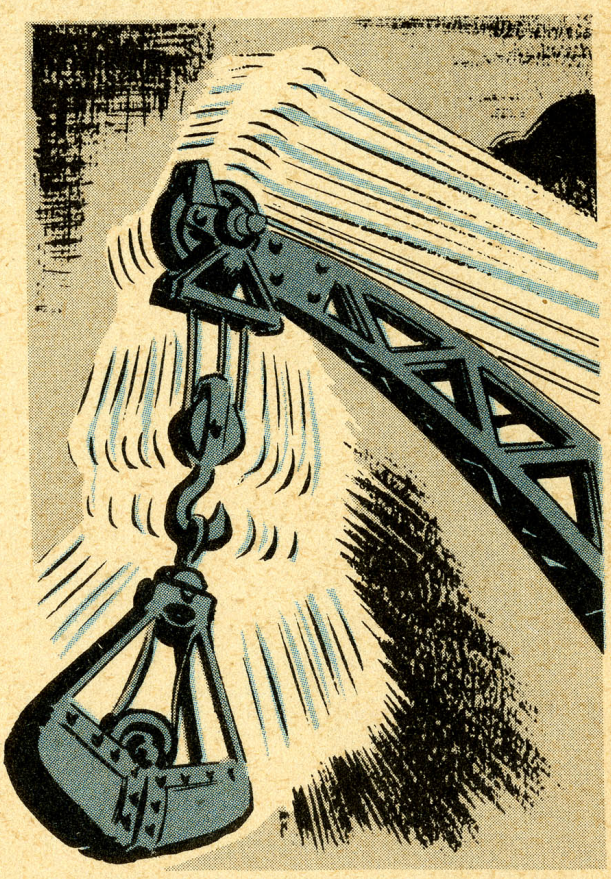
The bag (Eng Stock No. 99-1999.-000.010) will safeguard TM's, LO's and other maintenance guides that're supposed to be with your equipment at all times.

Your unit mechanic can drill holes and bolt the bag on for you in jig time. Just be sure the bag's not anchored on the engine hood or any place where the weather can get to it. Find a spot for it where it won't be in the way of moving parts and where it won't get beat up by brush and small trees.

The lube guide kits are available from the Commanding Officer, Granite City Engineer Depot, Granite City, Illinois. (See MWO Eng 1999-1, dated 4 Feb 54.)

LAME BRAINS MAKE LAME CRANES

Most crane operators are mighty careful, but you always have that one or two per cent. Those guys who don't take care of their equipment are the ones who make it tough for everybody else. It's



generally the lame brain who ends up with the lame crane.

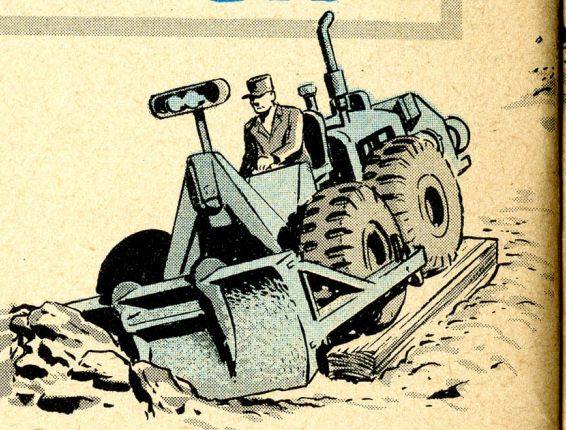
Just so you won't join the ranks of the two per cent, here's a handy tip to keep in mind—The next time you're moving your crane from one point of operation to another, take a little extra time and remove the bucket from the boom. If you don't do that, there's a good chance that your crane boom'll buckle out of shape. Then your crane's on its way to the shop for repair and you're on deadline.

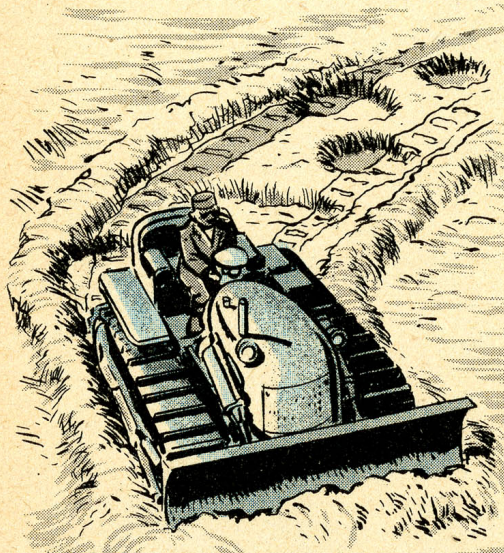
Here are some helpful dozer hints that'll make you a.....

BIG TIME OPERATOR

There's one trick veteran dozer operators always resort to when cold weather sets in—when you'll be doing a lot of operating on frozen ground. And believe me, that icy terrain ain't gentle.

Remember that if you try and break through the top layer of frozen ground with your dozer's blade in its normal position, you can wreck your blade in a hurry. You couldn't do any more damage by ramming it into a brick wall about four feet thick.





What you want to do is get a smooth log, plank or railroad tie and place it lengthwise in the path of one of the tracks or the wheels on one side of a rubber-tired tractor. This'll allow the opposite side of the blade to dig into the dirt at an angle. By moving your tractor back and forth with the corner of the blade in the ground, it won't take long for you to wear through the icy surface. Then you've got a foothold. The rest is easy.

Once you've cut into the frozen top layer, it's easy to break up the surrounding soil by bringing the blade up under the frozen surface and giving a hoist with the dozer blade.

This is just one of a lot of good short cuts you can find in operating your dozer. Another is to remember not to lower or raise your blade more than an inch when you're leveling off a field. It's better yet if you can keep the blade's movement down to less than an inch. You wondering why? Well, here's the reason:

When your bulldozer's blade is raised or lowered too much, the blade'll cut an uneven surface for your tractor to travel over. The more of this you do, the worse it gets. Before long, the field looks like an old-fashioned wash board and you'll feel like you're riding a roller coaster instead of a tractor. And what do you have when you're finished? A real mess. And 9 times out of 10 you'll have to do the job over again to get it right.

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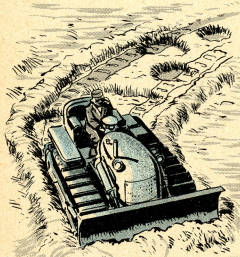

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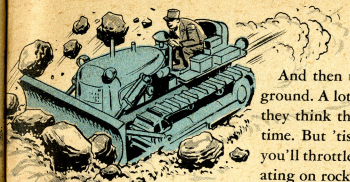
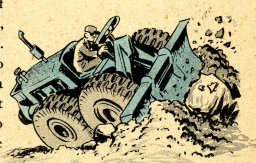
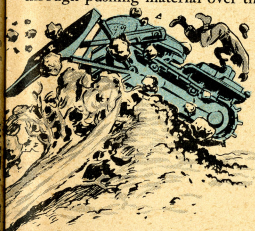


And then there's the case of bulldozing in rocky ground. A lot of guys open their throttle wide, 'cause they think they'll be able to move more dirt in less time. But 'tisn't so. You'll move a lot more dirt if you'll throttle down. Try it the next time you're operating on rocky ground.

And speaking of rocks, when you're carrying stuff never drag it over them. On a crawler, your blade, end bits, tracks and rollers'll suffer aplenty if you do. The best idea is to dig out the rocks as you come to 'em. If they're too big to get out with a dozer, use a rooter or get your demolition specialist to blast; but don't make your machine suffer. If you happen to run into a bed rock, build a fill over it until you're through pushing material over the rock.

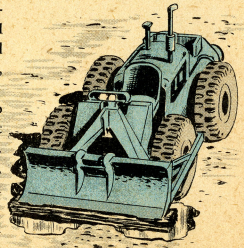




Back in Issue 36, PS reminded you to be careful of the roots when you're pushing over a tree. It's a reminder well worth repeating. After the tree begins to fall, don't continue to drive your tractor forward. Throw 'er in reverse and get out of there. If you don't, and if the tree's big enough, you're liable to find yourself—and the tractor—riding the roots up into the air.

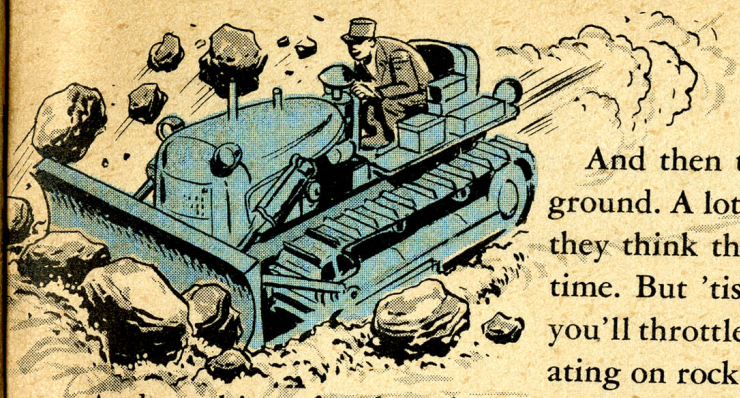
You're not supposed to be up in the air—neither is your dozer's blade. When you leave your dozer for any length of time—10 minutes or 10 hours—never leave the blade up in the air. It's dangerous.

While you're away, somebody's liable to start looking her over for curiosity's sake and move the control lever. That'd bring the blade down with a bang and one of your buddies might come up minus a foot, leg, arm, or even a head. Messy.



This'll never happen if you'll lower the blade to the ground when you leave your machine. It's best to rest the blade on a piece of wood or a small stone. Then, if the ground's muddy and the weather's cold, you won't find your blade frozen solid when you get back.

Make a mental note of these dozer hints and you'll help yourself become a better operator.



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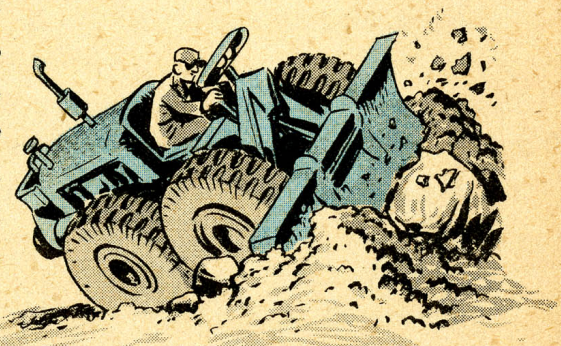

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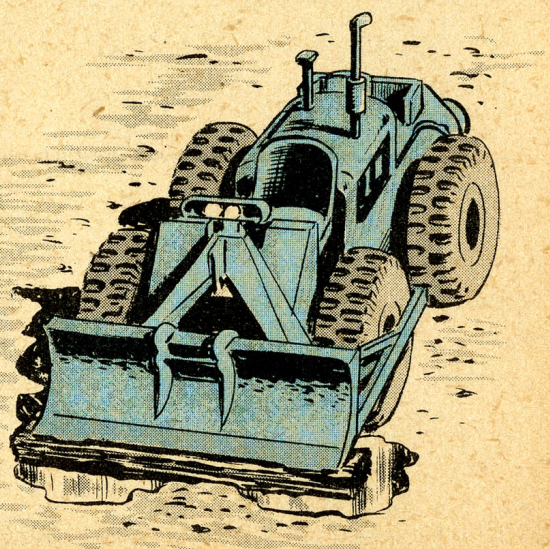
You're not supposed to be up in the air—neither is your dozer's blade. When you leave your dozer for any length of time—10 minutes or 10 hours—never leave the blade up in the air. It's dangerous.

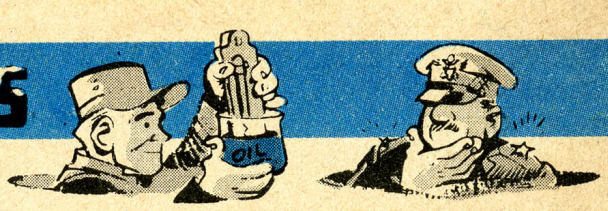
While you're away, somebody's liable to start looking her over for curiosity's sake and move the control lever. That'd bring the blade down with a bang and one of your buddies might come up minus a foot, leg, arm, or even a head. Messy.



This'll never happen if you'll lower the blade to the ground when you leave your machine. It's best to rest the blade on a piece of wood or a small stone. Then, if the ground's muddy and the weather's cold, you won't find your blade frozen solid when you get back.

Make a mental note of these dozer hints and you'll help yourself become a better operator.

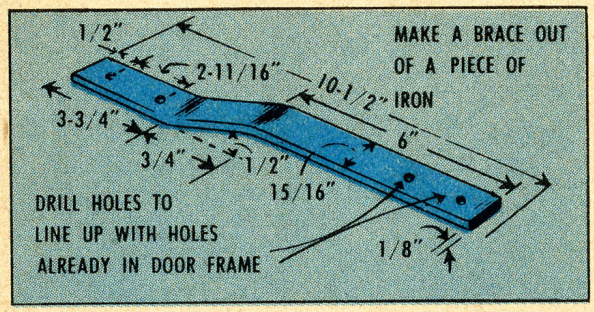
CONTRIBUTIONS

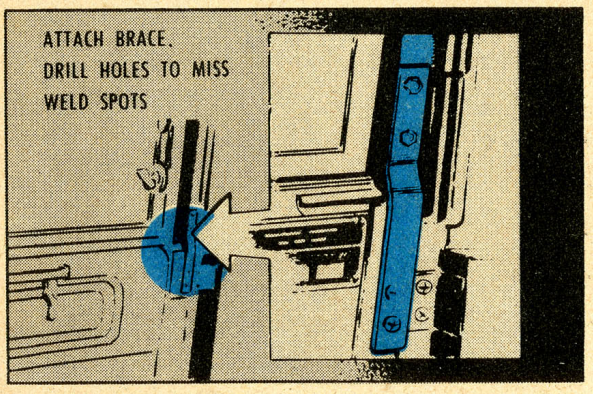


SHAKE, RATTLE AND ROLL

Dear Editor,

We use our M51 5-ton dump trucks for a lot of construction work. Our cowls have been cracking because of the twisting action set up by running hither and yon over ditches, ruts, gullies and other misguided pieces of ground. A simple reweld of the cracks in the cowl isn't any good. It just cracks again. Which brings us to this simple, little fix:





Make sure those bolts are tight at all times or your reinforcer just isn't going to reinforce.

If you got to drop your windshield just unscrew the top bolts. Neat, huh?

SFC Stanley Olsen
APO 181, San Francisco

(Ed Note—The problem's in the mill right now and you should see an MWO out on it soon.)

A REAL GASSER

Dear Editor,

A good way to keep from overfilling gas tanks on vehicles is to put a little reminder where you can see it every time you stick the nozzle in the hole. Overfilling can lead to a lot of serious things, like hydrostatic lock and dilution of oil in your crankcase if your pressure release valve gets stuck.

On those trucks which have their gas tanks in view, like the M135 and M51, we draw a line right on the tank with the words, DO NOT FILL ABOVE THIS LINE, stenciled on.

On those vehicles where the gas tanks are hidden, like the M37 and the Jeep, we stencil the words DO NOT FILL TO TOP right near the filler hole. As long as those words are staring us in the face, we're more careful.

Sgt. Louis Cole
Fort Eustis, Virginia

(Ed Note—A worthwhile suggestion, Sergeant Cole, and one that more people ought to follow. Any reminder near that filler nozzle will stop troubles that a lot of guy are having. There'll be a TB out soon that'll tell you how to stop too much pressure build up in the pressurized fuel system. This ought to stop a lot of the trouble too.)

COMMIE'S BRIEFS

New TM's

These new wheeled vehicle TM's are out—TM 9-8014 on the M38A1 Jeep and the M170 front-line ambulance; TM 9-8030 on the M37 series 3/4-ton trucks; and TM 9-8022 on the M44 series 2-1/2-ton trucks. Did you get yours?

Winch caution plate

Now's the time to get Ordnance to put your winch-safety-brake caution plate on your 2-1/2- and 5-ton trucks. It'll help you keep the winch-safety-brake adjusting-bolt in line. MWO ORD G742-W7 gives you the authority for your Reos, MWO ORD G749-W9 for your GMC's and MWO ORD G744-W22 for your 5-tonners.

Winch warning

Take a quick look at your M62 wrecker's front-mounted winch. On the end frame just below the shifting clutch lever you'll see a warning plate—just screaming at you not to **force** that lever... ever. It tells you how to handle it right. If the plate's covered with masking tape, paint or some such stuff—rip the stuff off... before somebody rips the guts out of your shifting mechanism.

Play it cool

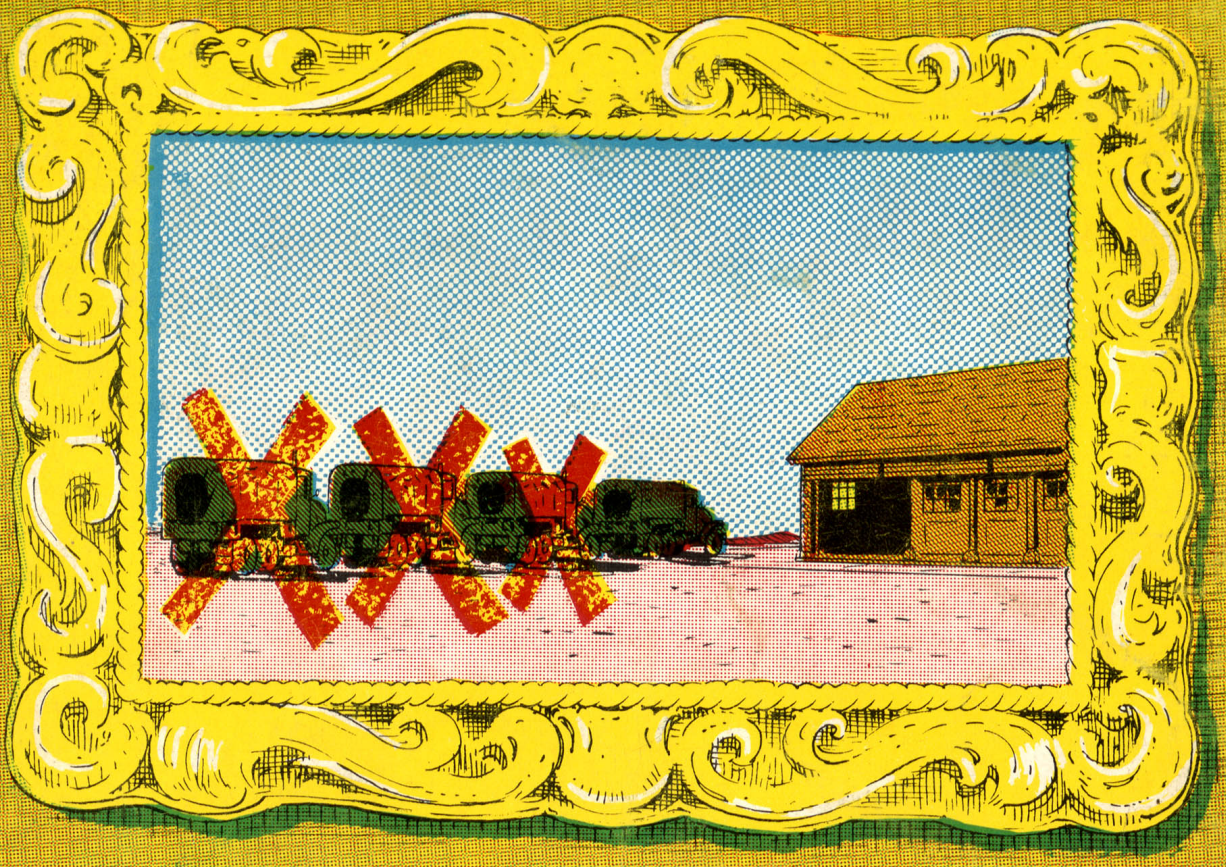
Take a look-see at your M44 series 2-1/2-ton trucks. Has the thermostat-bypass line been taken off? If it has, better put it back like it says in TB 9-8022-22 (April 1955) or else your truck can develop hydraulic surging, which'll knock the coolant right out of your cooling system.

Tank Tip

Next time TM 9-718A (January 1952) on the M47 tank gets its face lifted, it'll tell you to disconnect and tape the ground cables of both sets of batteries before taking off the battery covers. This is a good note to make in your present TM next to paragraphs 159 d (6) and 224 b (2).

FA recoil mechanism

The hydropneumatic recoil mechanism on your field artillery weapon (towed and self-propelled) is due more precise care and inspection per TB Ord 426 (27 Apr 55). It covers the latest on inspecting, checking and correction of nitrogen pressure. Check with your Ordnance support outfit and see if your pieces have the latest adjustments.



3 OUT OF 4 DON'T BELONG

M/SGT — OF FORT BRAGG, NORTH CAROLINA, SAYS THAT 3 OUT OF 4 VEHICLES COMING INTO HIS SHOP WOULD NOT BE THERE IF THEY HAD RECEIVED THE RIGHT KIND OF PREVENTIVE MAINTENANCE.

KEEP YOUR VEHICLE ON THE ROAD... AND OFF DEADLINE WITH—

PREVENTIVE MAINTENANCE